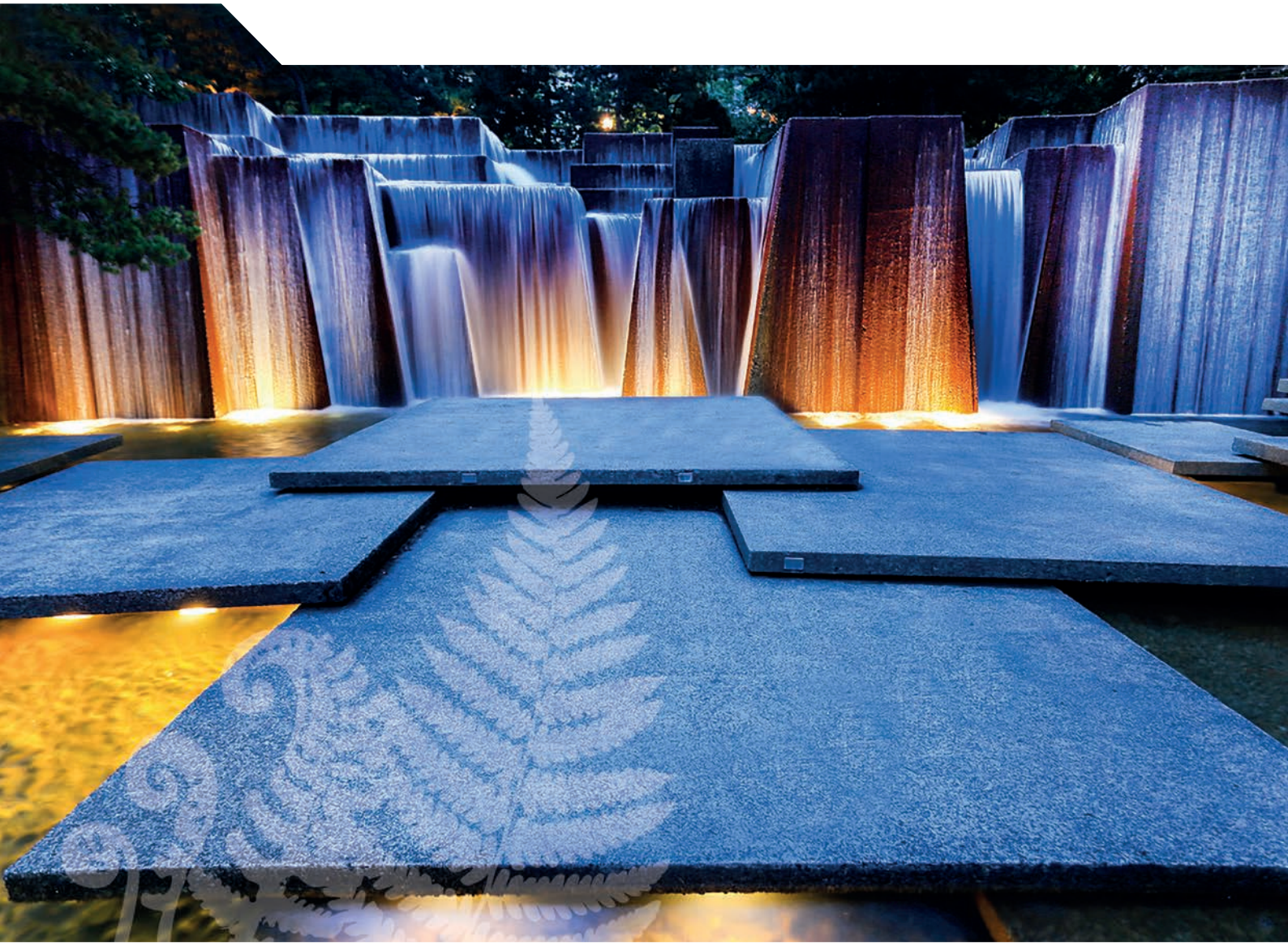
Fiscal Federalism 2022

MAKING DECENTRALISATION WORK



OECD

KIPF
KOREA INSTITUTE
OF PUBLIC FINANCE

Fiscal Federalism 2022

MAKING DECENTRALISATION WORK

OECD
BETTER POLICIES FOR BETTER LIVES

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Members of the OECD.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Please cite this publication as:
OECD (2021), *Fiscal Federalism 2022: Making Decentralisation Work*, OECD Publishing, Paris, *https://doi.org/10.1787/201c75b6-en*.

ISBN 978-92-64-46496-4 (print)
ISBN 978-92-64-91295-3 (pdf)

Photo credits: Cover © Jeff Day.

Corrigenda to publications may be found on line at: *www.oecd.org/about/publishing/corrigenda.htm*.

© OECD 2021

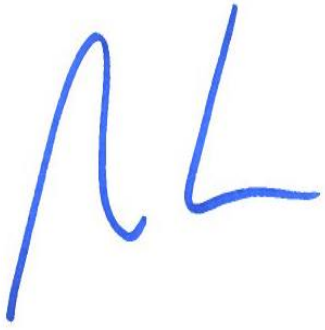
The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at *http://www.oecd.org/termsandconditions*.

Preface

Fiscal federalism refers to the distribution of taxation and spending powers across levels of government, and is the focus of the OECD's Network on Fiscal Relations across Levels of Government. Through decentralisation, governments can bring public services closer to households and firms, allowing for better addressing local preferences. However, unless properly designed, decentralisation can also make intergovernmental fiscal frameworks more complex and risk reinforcing interregional inequalities. This book synthesises the work of the Network over the past decade and a half, on how to balance the policy trade-offs inherent in intergovernmental fiscal relations, making use of its novel analytical results.

The Coronavirus crisis has put unprecedented fiscal pressure on all levels of government. States and localities are key players in the design and implementation of many policies, and they played a crucial role in tackling the crisis, notably in the health, public order and social care areas. Subnational governments are responsible for more than half of all public investment, almost a third of public expenditure and they raise about one-fifth of revenue. How they manage these fiscal resources along with other levels of government helps to determine whether recovery from a downturn is swift or drawn out.

Finding the right balance of policies depends on a country's economic, political and institutional features, and the work in this volume has been shaped by intense discussions among OECD and partner country policy makers, experts as well as civil society. Good practices in the design of policies for fiscal federalism cover dimensions including fiscal capacity, the delineation of responsibilities and co-ordination across levels of government. Unique metrics that capture subnational government tax and spending autonomy are illustrated, along with their linkages to strengthen the performance of the public sector – notably in healthcare and education – where digitalisation has increasingly played an essential role. Addressing inequalities through the design of fiscal equalisation systems also remains a major challenge. As we start to look beyond the crisis, ensuring fiscal and debt sustainability is essential, and a new framework for examining these issues for local investment is presented. While it is still early to draw lessons from the crisis, it is evident that well-designed fiscal frameworks across all levels of government are essential for preparedness.



Mathias Cormann

Secretary-General

Organisation for Economic Co-operation and Development (OECD)

Foreword

This volume is the product of the OECD's Network on Fiscal Relations across Levels of Government, founded in 2003. The Network is a unique high-level body at the OECD that "horizontally" brings together the expertise of multiple fields and four substantive departments – the Centre for Tax Policy and Administration (CTP), the Economics Department (ECO), the Public Governance Directorate (GOV) and the Centre for Entrepreneurship, SMEs, Regions and Cities (CFE) – as well as their principal committees (the CFA, EDRC, EPC, PBO, SBO and RDPC). The Network, chaired by Junghun Kim of Korea, addresses a wide range of challenges for intergovernmental fiscal relations, whether macroeconomic, structural and administrative, and seeks to contribute to stronger, fairer and more stable economies as well as improving the well-being of citizens.

The chapters in this volume seek to synthesise key conceptual issues in the field of fiscal federalism, and offer insights into emerging new issues that are of relevance to policy makers. The volume was conceived jointly with the Korean Institute of Public Finance (KIPF). The principal editors Sean Dougherty and Junghun Kim, were aided by associate co-editor Kass Forman. Extensive support was received from Meral Gedik, who helped to copyedit, layout and typeset the manuscript. The main contributors to each chapter were: Sean Dougherty (Chapters 1–4 and 9); Kass Forman (Chapters 1–4); Michelle Harding, Andrew Reschovsky and Julie Corberand (Chapter 3); Gary Banks and Leah Phillips (Chapter 4); Luiz de Mello and Teresa Ter-Minassian (Chapter 5); Delphine Moretti and Tim Irwin (Chapter 6); Katharina Herold (Chapter 7); Camila Vammalle, Indre Bambalaite and Julie Corberand (Chapter 8); Pietrangelo de Biase (Chapter 9). Beyond all of the individual chapter authors, we would like to thank the current and recent Heads of Division of the Fiscal Network for their guidance: Jón Blondal (GOV); David Bradbury (CTP); Luiz de Mello and Peter Hoëller (ECO); and Rudiger Ahrend and Dorothée Allain-Dupré (CFE). Finally, a special thank-you to KIPF, whose generous financial support made this volume possible.

Table of contents

Preface 3

Foreword 5

Executive summary 13
Key findings and recommendations 13

1 Synthesising good practices in fiscal federalism 17
Introduction 18
A snapshot of fiscal decentralisation in OECD countries 19
Improving sub-central fiscal autonomy 24
Delineation, fragmentation and assignment 31
Internal market and co-ordination barriers 35
References 40
Notes 43

2 Evaluating fiscal equalisation: Finding the right balance 45
Introduction 46
The impact of fiscal equalisation 53
Mechanism design of fiscal equalisation systems 61
Reforming equalisation systems 64
The process of reform 66
Guidance from OECD country surveys on equalisation reform 71
Equalisation reform in practice 72
References 75
Notes 77

3 Twenty years of tax autonomy across levels of government: Measurement and applications 79
Introduction and main findings 80
The importance of tax autonomy for sub-central governments 81
Measuring tax autonomy 82
The use of the OECD's tax autonomy analysis 83
Tax autonomy in OECD member countries: Latest update 84
US local government tax autonomy 95
References 106
Notes 108

4 Spending autonomy and public sector performance across levels of government 109
Introduction 110
Expenditure shares, spending power and fiscal autonomy 111
Spending power in health 117
Extending the indicators: Computing composite indicators with uncertainty 132
The effects of decentralisation on service provision 135
Benchmarking and monitoring of public sector performance 138
The role of “tailored” institutions for evaluation and oversight 142
References 144
Note 145

5 Digitalisation challenges and opportunities for subnational governments 147
Introduction 148
Opportunities 150
Challenges 155
The role of inter-governmental co-operation 158
Conclusions 161
References 163
Notes 165

6 Can subnational accounting give an early warning of fiscal risks? 167
Introduction 168
Monitoring 180
Benchmarking 185
References 189
Notes 190

7 Insolvency frameworks for state and local governments 191
Introduction and main findings 192
The case for subnational insolvency frameworks 195
Designing insolvency frameworks 204
References 218
Notes 223

8 Funding and financing of local government public investment 225
Introduction 226
The funding and financing sources for local public investment and their determinants 228
Four systems to ensure local fiscal efficiency and sustainability 240
References 246
Annex 8.A. Synthesis of the case studies 248
Notes 249

9 Intergovernmental fiscal relations and the COVID-19 crisis: Early lessons 251
Introduction 252
The role of intergovernmental relations to tackle COVID-19 254
Emergency phase 256
Resolution phase 266
Recovery and post-pandemic phase 277
References 279
Notes 283

FIGURES

Figure 1.1. Linking diagnostic observations to recommendations 19
Figure 1.2. Revenue and spending assignment varies widely across countries 21
Figure 1.3. Decentralisation benefits middle-income earners 23
Figure 1.4. Decentralisation is positively associated with educational performance 24
Figure 1.5. The sub-central tax mix shifts from property to income taxes as decentralisation increases 25
Figure 1.6. Unabsorbed EU structural and cohesion funds and spending of planned investment 37
Figure 2.1. Visualisation of approaches to fiscal equalisation 48
Figure 2.2. Equalisation modalities in practice 52
Figure 2.3. Equalising transfers as a percentage of total government expenditure 53
Figure 2.4. Average change in Gini coefficient before and after equalisation by modality 54
Figure 2.5. Regional convergence vs extent of fiscal equalisation 56
Figure 2.6. Expenditure on cost and revenue equalisation as a percentage of total expenditure on equalisation 57
Figure 2.7. Inter-regional Gini coefficient of per capita SCG revenue before and after equalisation 58
Figure 2.8. Cost equalising transfers % total equalising transfers vs. % change in inter-regional Gini coefficient of per capita revenue post-equalisation 59
Figure 2.9. Cost equalisation as a percentage of equalising transfers vs equalising transfers as a percentage of subnational government spending 60
Figure 2.10. Number of variables and factors entering into cost equalisation formulas by country 60
Figure 2.11. Linking motivations for equalisation reform to typical policy responses 64
Figure 2.12. Factors motivating reform of equalisation systems 65
Figure 2.13. The process of equalisation reform 66
Figure 2.14. Fiscal equalisation funding streams 69
Figure 2.15. Impact on total amount transferred by fiscal equalisation 70
Figure 3.1. Tax autonomy for federal and unitary countries, 2018 (share of revenues) 81
Figure 3.2. Average shares of tax revenue by government sector in OECD countries (% of GDP) 85
Figure 3.3. Revenue shares by government sector in OECD countries, 2018 (% of GDP) 85
Figure 3.4. Shares of revenue by government sector and tax category, 2018 (% of GDP) 86
Figure 3.5. Shares of revenue by tax category, 2018 (% of subnational revenues) 87
Figure 3.6. Tax autonomy in OECD countries 92
Figure 3.7. Partially autonomous local taxes and total local taxes as a % of total taxes, 2018 93
Figure 3.8. Fully autonomous local taxes and total local taxes as a % of total taxes, 2018 94
Figure 3.9. Change in tax autonomy for federal and unitary countries, 2000-2018 95
Figure 3.10. Local government tax revenue by type of tax, 2014 97
Figure 3.11. Major taxes used by municipal governments in the United States 103
Figure 3.12. Percentage of US local government tax revenue from the property tax, 2014 104
Figure 4.1. Composition of subnational government expenditure across economic functions 112
Figure 4.2. Subnational government expenditure as a share of total government expenditure, 2019 113
Figure 4.3. Classifications of spending autonomy 114
Figure 4.4. Indicator tree for spending autonomy 116
Figure 4.5. Spending autonomy indicators by sector and by policy dimension 117
Figure 4.6. Decision-making power in the health sector, across levels of government 118
Figure 4.7. Shared responsibilities in health care 119
Figure 4.8. Responsibilities for key policy decisions between central and regional governments 120
Figure 4.9. Responsibilities for key budgeting decisions across levels of government 122
Figure 4.10. Regional government responsibility for key budgeting decisions, by federal and unitary countries 123
Figure 4.11. Responsibilities for key output and monitoring decisions, across levels of government 124
Figure 4.12. Responsibilities across areas of spending autonomy in health care 125
Figure 4.13. The categorisation of social housing responsibilities across actors 126
Figure 4.14. Spending power indicators for social housing by sub-category 127
Figure 4.15. Distribution of responsibilities in education sector across decision makers 128
Figure 4.16. Distribution of responsibilities in education sector across autonomy classification 128
Figure 4.17. Distribution of responsibilities in long-term care across decision makers 129
Figure 4.18. Distribution of responsibilities in long-term care across autonomy classifications 130
Figure 4.19. Distribution of responsibilities in the transport services sector across decision makers 131
Figure 4.20. Distribution of responsibilities in the transport services sector across autonomy classification 131
Figure 4.21. Composite indicators of spending autonomy 134
Figure 4.22. Marginal effect of decentralisation on public spending on health care and life expectancy 136
Figure 4.23. The relationship between public sector performance, efficiency and effectiveness 137

Figure 4.24. Performance benchmarking approaches 140
Figure 5.1. The digital eco-system 149
Figure 5.2. Regional variation in population using the internet for public services 156
Figure 5.3. Regional variation in the share of households with a broadband connection 157
Figure 6.1. Subnational spending and debt shares 168
Figure 6.2. Elements of an effective subnational accounting system 170
Figure 6.3. Typical path of a subnational financial crisis 172
Figure 6.4. Authority for standard-setting 174
Figure 6.5. Accounting basis for accounts of subnational governments 176
Figure 6.6. Reference framework for accrual-basis accounting standards 177
Figure 6.7. Audit of subnational accounts 180
Figure 6.8. Indicators monitored 184
Figure 7.1. High subnational indebtedness can deprive an SNG of needed fiscal capacity 192
Figure 7.2. Key functions of subnational insolvency framework 193
Figure 7.3. Ratio of subnational debt to own revenue 195
Figure 7.4. Composition of subnational debt by liability type, 2016 198
Figure 7.5. SNG insolvency frameworks vs corporate insolvency frameworks 204
Figure 7.6. The insolvency framework as a sequential process 205
Figure 8.1. Key OECD indicators of the relative weight of LGs in general government 227
Figure 8.2. Factors affecting the capacity of LGs to finance public investment 229
Figure 8.3. LG expenditure, investment and debt as a share of GG and LG tax revenues as a share of total tax revenues, 2018 241
Figure 9.1. Synthesising of challenges in intergovernmental relations to tackle COVID-19 254
Figure 9.2. SNGs' expenditure as a percentage of those of general government on selected government functions 255
Figure 9.3. Number of COVID-19 related deaths per month in OECD and partner countries 256
Figure 9.4. Share of health, public order and social protection expenditures for SNGs 263
Figure 9.5. Quarterly GDP growth rate in OECD countries 264
Figure 9.6. Pro-cyclical fiscal policy at subnational level: SNG investment usually fluctuate more than central governments in times of crisis 265
Figure 9.7. Measures employed by central governments to improve subnational fiscal capacity in the emergency phase 266
Figure 9.8. Share of population fully vaccinated against COVID-19 in OECD and partner countries 267
Figure 9.9. SNGs' expenditure as a percentage of general government's on government functions related to vaccination 268
Figure 9.10. Growth of revenues and expenditures of different levels of government (2019 to 2020) 271
Figure 9.11. Central governments' fiscal balances fluctuate more and are more affected by crises than SNGs' 272
Figure 9.12. Revenue composition of different levels of government 273
Figure 9.13. Comparison of central government and SNGs short-term tax buoyancies in times of crisis 274
Figure 9.14. Disparities in growth of revenues and expenditures within countries 276

TABLES

Table 1.1. Typical recommendations to improve fiscal capacity 27
Table 1.2. Surveys have called upon both federal and unitary countries to reduce vertical and horizontal fragmentation 32
Table 1.3. There are seven major recommendations pertaining to reducing internal barriers and improving co-ordination 36
Table 2.1. Principal characteristics of selected equalisation systems 49
Table 2.2. Fiscal equalisation rates in Germany 51
Table 2.3. Effect of equalising transfers on the per capita revenue distribution 54
Table 2.4. Factors used in computing equalisation entitlements for SCGs 63
Table 2.5. Past recommendations on fiscal equalisation from country surveys and related papers 71
Table 2.6. Common reforms to equalisation systems 72
Table 3.1. OECD Taxonomy of Taxing Power 83
Table 3.2. Tax autonomy literature 84
Table 3.3. Taxing power of sub-central governments in OECD member countries, 2018 88
Table 3.4. Local government tax revenue in the United States, calendar year 2014 96

Table 3.5. Taxing power of US local governments and other OECD countries (2014) 98
Table 3.6. Taxing power of local governments in the United States by type of tax, 2014 100
Table 3.7. Taxing power of US local governments, if the United States used the same mix of taxes as the average OECD country 102
Table 3.8. Taxing power of local governments by state, 2014 104
Table 4.1. Coding values 116
Table 6.1. Consistency of standards across national and subnational governments 171
Table 6.2. Date of the transition to accrual accounting 174
Table 6.3. Reporting requirements towards national government 178
Table 6.4. National governments' authority to intervene in subnational finances 181
Table 6.5. National governments' monitoring of subnational finances 181
Table 6.6. Monitoring of subnational finances by national governments 182
Table 6.7. Benchmarking, publication and satisfaction with monitoring 187
Table 6.8. Elements of subnational accounting systems that interact with intergovernmental fiscal arrangements 188
Table 7.1. Overview of rules dealing with financially distressed municipalities and states in selected countries 200
Table 7.2. Overview of objectives and corresponding features of insolvency frameworks 214
Table 7.3. Connecting features of the subnational model framework to objectives 215
Table 8.1. Availability of funding options 231
Table 8.2. Prevalence of fiscal discipline mechanisms 232
Table 8.3. Prevalence of financial instruments 234
Table 8.4. Prevalence of financial institutions 237
Table 8.5. Public Financial Management systems 238
Table 8.6. Multi-level governance practices 240
Table 8.7. Interaction between elements affecting borrowing capacity under different systems 245

Annex Table 8.A.1. Summary of LG investment funding and financing frameworks 248

Follow OECD Publications on:

http://twitter.com/OECD_Pubs

http://www.facebook.com/OECDPublications

http://www.linkedin.com/groups/OECD-Publications-4645871

http://www.youtube.com/oecdilibrary

http://www.oecd.org/oecddirect/

This book has...

StatLinks
A service that delivers Excel® files from the printed page!

Look for the *StatLinks* at the bottom of the tables or graphs in this book. To download the matching Excel® spreadsheet, just type the link into your Internet browser, starting with the *https://doi.org* prefix, or click on the link from the e-book edition.

Executive summary

This volume of *Fiscal Federalism* surveys recent trends and policies in intergovernmental fiscal relations and subnational government, as countries emerge from the Coronavirus crisis. The chapters draw insights into good practices in fiscal federalism and how to resolve policy-making trade-offs, while delving into more detailed examinations of:

- the design of fiscal equalisation systems
- subnational tax and spending autonomy
- public sector performance across levels of government
- digitalisation challenges and opportunities
- subnational accounting and insolvency frameworks
- funding and financing of local government public investment
- early lessons from the COVID-19 crisis for intergovernmental fiscal relations.

Key findings and recommendations

Chapter 1, "Synthesising good practices in fiscal federalism", examines the design of intergovernmental fiscal relations, including how tax and spending powers are assigned to promote sustainable and inclusive economic growth. Decentralisation can enable subnational governments to provide better public services for households and firms, while it can also make intergovernmental frameworks more complex, harming equity. The challenges of fiscal federalism are multi-faceted and involve difficult trade-offs. This synthesis chapter consolidates much of the OECD's work on fiscal federalism over the past 15 years, with a particular focus on OECD economic surveys. The chapter identifies a range of good practices in the design of country policies and institutions related to strengthening fiscal capacity, delineating responsibilities across levels of government and improving intergovernmental co-ordination.

Chapter 2, "Evaluating fiscal equalisation: finding the right balance" examines the transfer of financial resources to and between subnational governments with the aim of mitigating regional differences in fiscal capacity and expenditure needs. However, the determination of fiscal capacity and expenditure needs is not a straightforward task. OECD countries use widely varying mechanism design approaches in their equalisation systems. This chapter compares national approaches, covering the three modes of fiscal equalisation: pure revenue equalisation, revenue/cost equalisation and gap-filling equalisation, describing the distinct impacts of each approach on subnational revenue disparities. A clear inverse relationship emerges between the size of the cost-equalising component within a system and the percentage change in subnational per capita revenue disparities after equalising transfers are applied, although no significant relationship emerges between equalisation and regional convergence.

Chapter 3, “Twenty years of tax autonomy across levels of government: measurement and applications”, overviews the Fiscal Network’s assessment of sub-central government tax autonomy in OECD countries. This chapter first provides an overview of the methodology used to characterise tax autonomy. After summarising the widespread use of the tax autonomy results by researchers addressing a range of policy issues, the chapter highlights recent trends in sub-central government revenues and presents the results of the latest survey of tax autonomy, completed in 2020. Using the OECD’s tax autonomy methodology, the chapter then assesses local government tax autonomy in the 50 US states. The analysis reveals that US local governments have somewhat more tax autonomy than local governments in the average OECD country. The chapter also includes refinements of the tax autonomy methodology.

Chapter 4, “Spending autonomy and public sector performance across levels of government”, presents new measures of subnational spending autonomy across key sectors of local government service delivery, which allows the analysis of alternative arrangements on outcomes. Differences in spending autonomy across sectors and countries may have important consequences for intergovernmental fiscal relations. Yet the share of subnational expenditure often does not reflect the true degree of decision-making authority. The chapter then examines how the performance of the public sector can be strengthened through the assignment of responsibilities at the most effective level of government for their delivery, focusing on health care. Performance monitoring and evaluation systems are also illustrated that can enable the benchmarking of public services to promote learning about good policy practices.

Chapter 5, “Digitalisation challenges and opportunities for subnational governments”, looks at these issues in the areas of tax and expenditure policy, service delivery and fiscal-financial management, as well as regulatory practices and policies. However, governments – especially subnational ones – often also face shortages of skills, equipment and physical infrastructure, while having to address emerging challenges in cyber security risk management and data protection. The digital transformation calls for co-operation among the different layers of administration in support of effective and efficient digitalisation of subnational governments. This chapter reviews and discusses these opportunities and challenges.

Chapter 6, “Can subnational accounting give an early warning of fiscal risks?” reviews the early detection of state and local fiscal problems in order to resolve them quickly before they turn into crises. A survey was undertaken to investigate the quality of subnational accounting, as well as the use of subnational accounts by national governments that monitor subnational finances. The results show that in many countries subnational accounting has characteristics that should help in the early detection of fiscal problems, including the use of accrual accounts. Many national governments use a wide range of indicators from the accounts to monitor the financial health of subnational governments. However, there is room for progress including in the monitoring of non-financial assets and reporting of currently off-balance sheet liabilities.

Chapter 7, “Insolvency frameworks for state and local governments” can stipulate rules and procedures to resolve debt in a prompt and orderly way. Such frameworks may serve to facilitate debt restructuring and the fiscal recovery even of subnational entities. They may help prevent subnational governments from sliding into insolvency. This chapter identifies the benefits of setting up an insolvency framework for subnational governments, complementing existing budget rules and procedures. It analyses different design options of subnational insolvency frameworks by drawing on existing regimes for municipalities in Colombia, Hungary, South Africa, Switzerland and the United States as well as proposals for sovereign bankruptcy procedures in the literature. The chapter also explores the main challenges for implementing subnational insolvency regimes and presents possible solutions.

Chapter 8, “Funding and financing of local government public investment” offers a framework to analyse the key factors which affect the capacity of local governments to fund and finance public investment. The bulk of government investment is done at the local level in OECD countries, representing on average 41% of total public investment. Most studies on subnational government debt focus on the regional or state level, and very few studies analyse public investment specifically by local governments. This chapter aims at filling this gap, presenting a framework to analyse the key factors that matter, and illustrates the framework with five country examples: Denmark, Finland, Ireland, Netherlands and New Zealand.

Chapter 9, “Intergovernmental fiscal relations and the COVID-19 crisis: early lessons”, analyses the responses countries have taken through the channel of intergovernmental relations to tackle the pandemic at different stages of the crisis, highlighting lessons learnt. With all levels of government involved in handling the COVID-19 outbreak, intergovernmental relations have had a crucial role to play in designing and implementing an effective response to the crisis. Moreover, not only have intergovernmental relations shaped the response to the crisis, but the crisis is also shaping the future of intergovernmental relations. As the world economy and societies are going through radical changes due to the pandemic, fiscal federalism may have to adapt to the post-crisis period, when there are higher regional inequalities and greater interdependence between central and subnational policies.

1 Synthesising good practices in fiscal federalism

The design of intergovernmental fiscal relations can help to ensure that tax and spending powers are assigned in a way to promote sustainable and inclusive economic growth. Decentralisation can enable subnational governments to provide better public services for households and firms, while it can also make intergovernmental frameworks more complex, harming equity. The challenges of fiscal federalism are multi-faceted and involve difficult trade-offs. This synthesis chapter consolidates much of the OECD's work on fiscal federalism over the past 15 years, with a particular focus on OECD economic surveys. The chapter identifies a range of good practices in the design of country policies and institutions related to strengthening fiscal capacity, delineating responsibilities across levels of government and improving intergovernmental co-ordination.

Introduction

Fiscal federalism refers to the distribution of taxation and spending powers across levels of government. Through decentralisation, governments can bring public services closer to households and firms, allowing for better adaptation to local preferences. However, unless properly designed, decentralisation can also make intergovernmental fiscal frameworks more complex and risk reinforcing interregional inequality. Accordingly, several important trade-offs emerge from the devolution of tax and spending powers which require consideration by policy makers. In addition, globalisation and changes to the geographic concentration of economic activity reinforce the importance of inter-governmental fiscal relations and sub-national governance (Boadway and Dougherty, 2019[1]).

Policies for fiscal decentralisation: A meta-analysis of OECD country surveys

This synthesis chapter reviews both cross-country research on fiscal federalism and individual country experiences with the aim of consolidating OECD recommendations for improving fiscal relations across levels of government. To this end, it compiles the findings and recommendations presented in country-level *Economic Surveys* over the past fifteen years, since the inception of the Network on Fiscal Relations across Levels of Government. The chapter proposes a framework for fiscal decentralisation based on three high-level recommendations supported by several sub-recommendations (Box 1.1). The framework provides guidance to policy makers about policy options to consider along with the associated trade-offs. Figure 1.1 presents a selection of key diagnostic observations that tend to precede the three primary recommendations.

Box 1.1. A framework for synthesising fiscal federalism

Type I. "Fiscal capacity" recommendations: strengthen subnational taxation and spending powers to allow governments to respond better to local needs and regional variations.

1. Better align own-source revenues with sub-central spending
2. Raise sub-central tax autonomy to ensure sufficient capacity
3. Strengthen fiscal equalisation systems

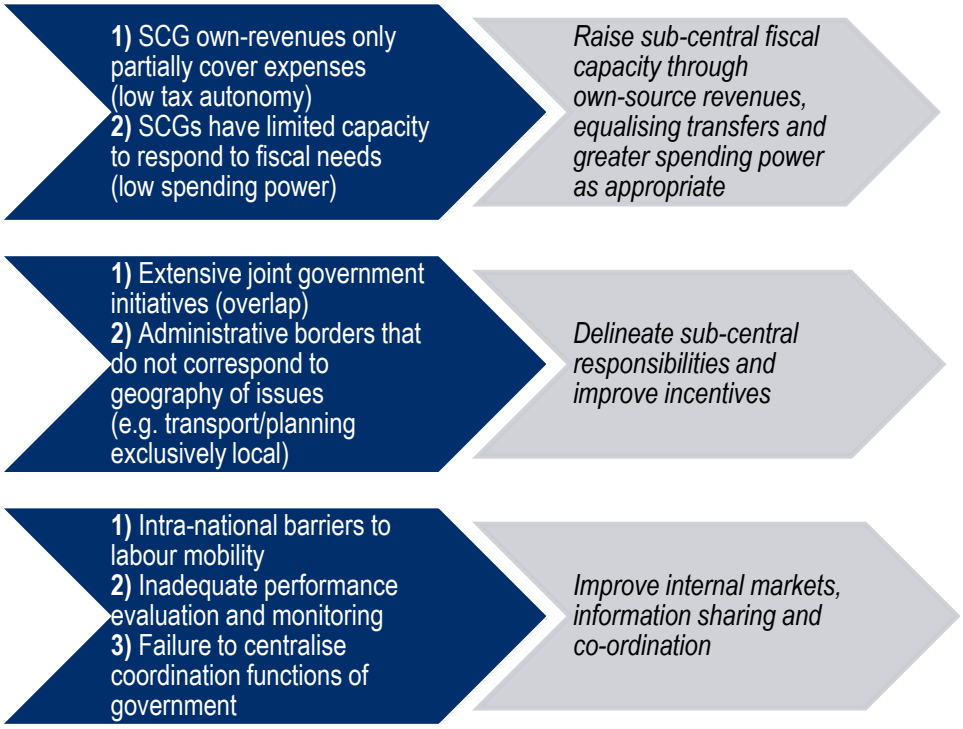
Type II. "Delineation" recommendations: clearly delineate responsibilities both horizontally and vertically to improve efficiency and equity.

4. Delineate functions and responsibilities across levels of government clearly

Type III. "Co-ordination" recommendations: minimise barriers to internal trade and enhance inter-governmental co-ordination.

5. Improve transparency, data collection and performance monitoring to enhance co-ordination

Figure 1.1. Linking diagnostic observations to recommendations



A snapshot of fiscal decentralisation in OECD countries

What is fiscal decentralisation?

Fiscal decentralisation refers to the assignment of tax and spending powers to sub-central governments (SCGs). The degree of fiscal decentralisation can be measured in terms of two components: tax autonomy and spending power. Tax autonomy describes the leeway that SCGs have over tax policy, such as the right to introduce or to abolish a tax, to set tax rates, to define the tax base, or to grant tax allowances/reliefs to households and firms (Dougherty, Harding and Reschovsky, 2019[2]). Spending power describes the level of control or authority of subnational decision makers over public spending, including deciding how services are organised, how funds are allocated, the preferred level and quality of inputs and outputs and how service delivery is measured and monitored (Dougherty and Phillips, 2019[3]). By bringing together tax autonomy and spending power, fiscal decentralisation captures the notion of aligning sub-central control over both taxation and budgets (OECD/KIPF, 2016[4]).

Traditionally, tax autonomy and spending power have been quantified using SCG tax and spending shares, respectively, which are readily available on a consolidated basis in the OECD's Fiscal Decentralisation database annually.[1] However, there are clear limitations to this approach. While SCG tax and spending shares give a rough indication of the extent of fiscal decentralisation, they fail to capture arrangements that lead SCGs to collect taxes or dispense funds without possessing control over, e.g., the rate of the tax or the allocation of the funds. In response, the OECD's Network on Fiscal Relations has developed a set of tax autonomy and spending power indicators which seek to reflect more accurately the extent of subnational control over taxation and spending.

The OECD tax autonomy indicator employs a system of eleven codes to classify tax instruments according to the degree of control possessed by subnational government over the instrument in question. Codes range from a1, which indicates that the recipient SCG sets the tax rate and any tax reliefs without needing to consult a higher-level government, to e.g. d4, indicating a tax-sharing arrangement in which the revenue split is determined annually by a higher-level of government. In this way, the tax autonomy indicator captures the full spectrum of SCG control over taxation. From the inception of the Network on Fiscal Relations in 2003, the OECD has completed the tax autonomy study every three years, with the latest analysis completed in 2020, based on available data for 2018, as described in Chapter 3. This work has shown that SGCs in the OECD have significantly less tax autonomy than is suggested by simple share-based measures of decentralisation (OECD, 2013[5]; Dougherty, Harding and Reschovsky, 2019[2]).

Similar to the tax autonomy indicator, the OECD spending power indicator was developed to capture aspects of subnational control over spending that are not revealed by the spending share alone. The spending power indicator employs survey data to score subnational autonomy in various sectors on a scale from 0 (less subnational power) to 10 (more subnational power). Within each sector, survey questions assess subnational power along the several dimensions: policy autonomy (e.g. determination of policy objectives), budget autonomy (e.g. power to allocate funding), input autonomy (e.g. management of civil servants who design or provide public services), output autonomy (e.g. service standards), and evaluation/monitoring autonomy. The raw data are then used to compute scores for each sector, by country. These new indicators are described in Chapter 4 which presents spending power indicators for primary and secondary education, health care, housing, long-term care and transport sectors (OECD/KIPF, 2016[4]; Dougherty and Phillips, 2019[3]).

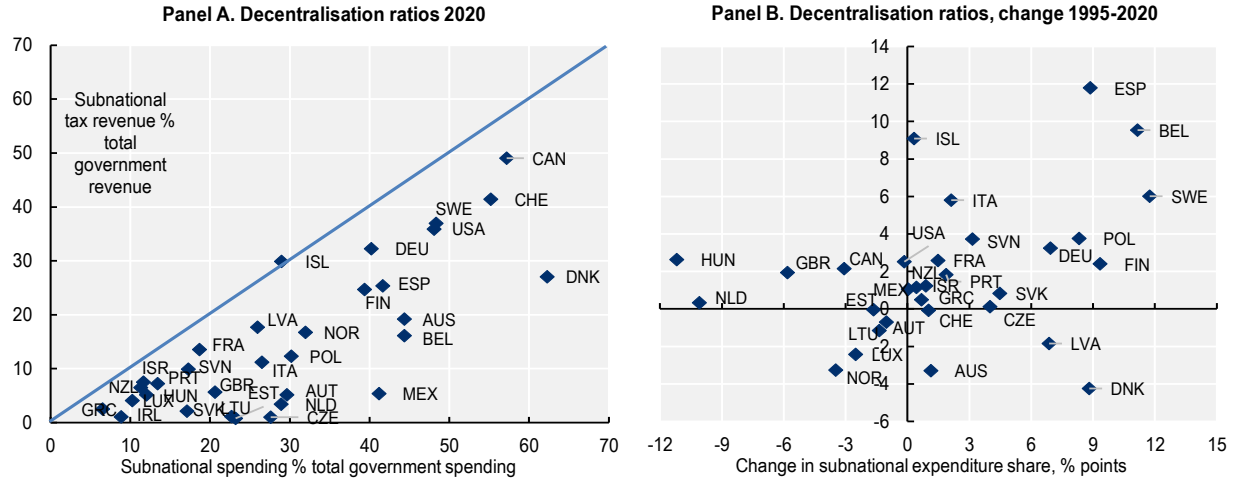
Fiscal decentralisation: 1990s to today

In the 1990s and the early 2000s, many countries decentralised spending further, especially in education, infrastructure, environment and neighbourhood services. The resulting rise in the vertical fiscal imbalance – the difference between spending and own revenue – was met with the growth of grants or transfers. After the economic and financial crisis of 2008-09, the share of sub-central spending started to decline again. In contrast, the sub-central revenue share has changed little over the past two decades.

Today, intergovernmental fiscal frameworks vary widely across countries, but with some key similarities. For example, in all OECD countries spending is more decentralised than revenue (Figure 1.2, Panel A). Across the OECD, SCGs averaged one-third of total government spending and one-fifth of total revenue in 2015. In 2014, the SCG share of total revenue ranged from almost 50% in the case of Canada to less than 10% for Ireland and Greece. In terms of tax autonomy, State/regional governments on average have full discretion over 70% of their tax revenue (classified as a1 by the tax autonomy indicator). Another 15% of their revenues come from shared taxes, where state governments' consent to the sharing ratio is required. In contrast, local governments, on average, have full or close to full autonomy over only 13% of their revenue. Nevertheless, local governments retain discretion, subject to some limitations, over an additional 62% of tax revenues on average (Dougherty, Harding and Reschovsky, 2019[2]).

Meanwhile, spending power indicators for OECD countries suggest that subnational spending shares may exaggerate true SCG authority over spending. In many cases, substantial decision-making power over a given sector rests with a higher order of government even where some portion of the funding comes from the subnational level. SCG spending power is higher in federal than unitary countries, and higher in the housing, transport and education sectors as compared to the health and long-term care sectors (Dougherty and Phillips, 2019[3]).

Figure 1.2. Revenue and spending assignment varies widely across countries



Note: The 45 degrees line in Panel A shows a situation where revenue decentralisation equals spending decentralisation. The farther away a country is from that line, the larger its vertical fiscal imbalance. In Panel B, Iceland's position represents the change between 1998 and 2019.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/eb402x

The trade-offs of fiscal decentralisation

The modern theoretical underpinnings of decentralisation originate with Oates (1972[6]). The decentralisation theorem posits that, assuming no cost savings from centralisation, aggregate welfare across a set of jurisdictions will be superior when each jurisdiction is allowed to select its own public consumption bundle as opposed to when uniform consumption is provided across all jurisdictions. Obviously, this simple statement of the theorem does not account for the loss of economies of scale or a myriad of other factors that may intervene as fiscal decentralisation increases.

In practice, the policy maker faces a set of multi-dimensional trade-offs when designing intergovernmental frameworks for fiscal decentralisation. Previous work by the Network has discussed how decentralised fiscal frameworks allow for catering to local preferences and needs, while more centralised frameworks help reap the benefits of scale (OECD, 2013[5]). Another key trade-off derives from the effect of decentralisation on the cost of information to different levels of government. While greater decentralisation implies that subnational governments can access more information about the needs of a constituency at lower cost, it simultaneously increases the informational distance between central and subnational government. In turn, this may make information more costly from the perspective of the central government, impeding its co-ordination and monitoring functions (de Mello, 2019[7]; de Mello, 2000[8]).

Decentralisation could also engender a costly misalignment of incentives. For example, a "common pool" problem may arise when decentralisation narrows the subnational revenue base and raises the vertical fiscal gap (de Mello, 2000[8]). In this case, the necessary reliance on revenue sharing with central government to ensure SCG fiscal capacity may also distort the cost/benefit analysis of subnational governments—particularly in situations where an SCG realises a payoff without bearing the entirety of the associated cost. Rigid arrangements that entrench fiscal dependence on the central government may drive SCGs to manipulate tax-sharing agreements in order to increase their share while undermining their motivation to cultivate the local tax base. Therefore, the possible efficiency and equity gains from decentralisation are closely linked to mitigating the pitfalls of poorly designed revenue sharing (Kim, 2018[9]).

In light of these trade-offs, recent empirical work has begun examining the non-linear effects of fiscal decentralisation. This includes evidence of an inflection point for decentralisation within the health sector (Dougherty et al., 2019[10]) and data, which suggest that decentralisation may have diminishing marginal effects on economic outcomes, as discussed further below.

Empirical observations on fiscal decentralisation

Decentralisation and growth

An extensive literature reports mixed effects of decentralisation on growth. Martinez-Vazques et al. (2017[11]) provides a survey outlining much of the work to date and underscoring the ambiguous results. Within-country studies are especially inconclusive (OECD, 2019[12]). For example, studies of decentralisation among US States have found both positive e.g. Akai and Sakata (2002[13]) and negative effects e.g. Xie et al. (1999[14]) on growth. Similarly, studies of decentralisation and growth in China have reported both positive e.g. Qiao et al. (2008[15]) and negative effects e.g. Zhang and Zou (1998[16]).

This ambiguity can be contextualised by economic theory. Blöchliger and Akgun (2018[17]) outline several channels that link decentralisation to growth, both positively and negatively. First, following Tiebout (1956[18]), decentralisation may allow the mobile resident (or, more generally, mobile factor of production) to trigger inter-regional competition by "voting with her feet". This pressure stimulates public sector productivity and, by extension, economic growth. Second, decentralisation may limit the power of special interests while enabling innovation and thereby fostering productivity. At the same time, other aspects of economic theory suggest a negative relationship between decentralisation and growth. For example, decentralisation may undermine economies of scale. Likewise, decentralisation may lead SCGs to be affected by externalities created by the policy choices of adjacent jurisdictions. In these cases, there is a risk of undersupply of public goods or inadequate taxation.

OECD research has found a broadly positive relationship between revenue decentralisation and growth, with spending decentralisation demonstrating a weaker effect, e.g. Blöchliger, Égert and Fredriksen (2013[19]); Blöchliger and Akgun (2018[17]) find that "tax decentralisation is more conducive to growth than spending decentralisation", with a 10 percentage point increase in tax decentralisation associated with 0.1 percentage points more economic growth. This is consistent with other recent studies, including Gemmell et al. (2013[20]) and Filippetti and Sacchi (2016[21]).

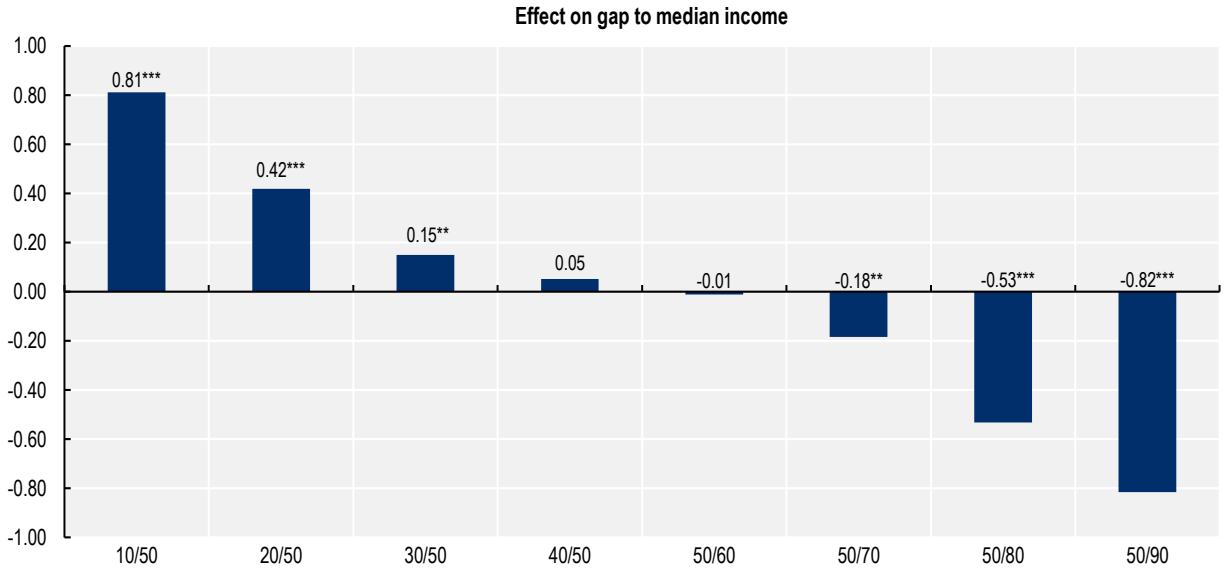
Nevertheless, the role of country-specific circumstances is an important caveat to cross-national findings, as outcomes may feed back into the decentralisation process. An empirical study by the OECD that takes account of potential endogeneity issues, Dougherty and Akgun (2018[22]), found that the marginal effect of further decentralisation varies across countries to a large degree, reflecting the degree of de facto centralisation or decentralisation of existing revenue and spending responsibilities.

Decentralisation and inequality

OECD research on decentralisation and household income inequality suggests both that country specifications matter and that the effects may differ depending on the part of the income spectrum considered. For instance, Stossberg and Blöchliger (2017[23]) find that increasing decentralisation by 1% reduces the gap between the second richest and the median household income decile by 0.8%. As such, decentralisation appears to reduce the gap between high and middle-income households but may leave low incomes behind, especially where jurisdictions have large tax autonomy (Figure 1.3). More broadly, Dougherty and Akgun (2018[22]) observe that further decentralisation would increase the 90/10 income decile ratio on average, although the marginal effects vary considerably by country.

Figure 1.3. Decentralisation benefits middle-income earners

Impact of spending decentralisation on household income, by household income decile



Note: Coefficients reflect percentage point changes, i.e. 0.42 means that a one percentage point increase in decentralisation (e.g. the spending share increases from 12% to 13%) is associated with an increase by 0.42 per cent points of the ratio between the median and the respective household income decile. A negative coefficient means that increasing spending decentralisation reduces the gap between that income decile and the median income. A positive coefficient means the gap to the median income is widening. "10/50" describes the lowest-income decile, "50/90" the second-highest. Asterisks (***, ** and *) indicate the level of significance at the 1%, 5%, and 10% levels, respectively.
Source: Stossberg and Blöchliger (2017[23]).

StatLink https://stat.link/ih3b8u

Fiscal autonomy may also be linked to income convergence at the regional level. In a study of regions within OECD countries, Blöchliger *et al.* (2016[24]) find that increasing sub-central own revenue share "by 10 percentage points is associated with a reduction of the regional GDP coefficient of variation between 3.6 and 4.3 percentage points" and that "increasing the [SCG] tax share by 10 percentage points reduces disparities by 2.4 to 2.8 percentage points" (Blöchliger, Bartolini and Stossberg, 2016[24]). The underlying mechanism may be related to the pressures of inter-jurisdictional competition which drives improved public sector performance across all regions. While fiscal autonomy could raise concerns about predatory tax competition, OECD research suggests that increasing tax autonomy does not induce a "race to the bottom" with respect to subnational tax rates. In fact, over the past couple of decades SCG tax rates have "trended up rather than down and generally converged over time" (OECD, 2013[5]).

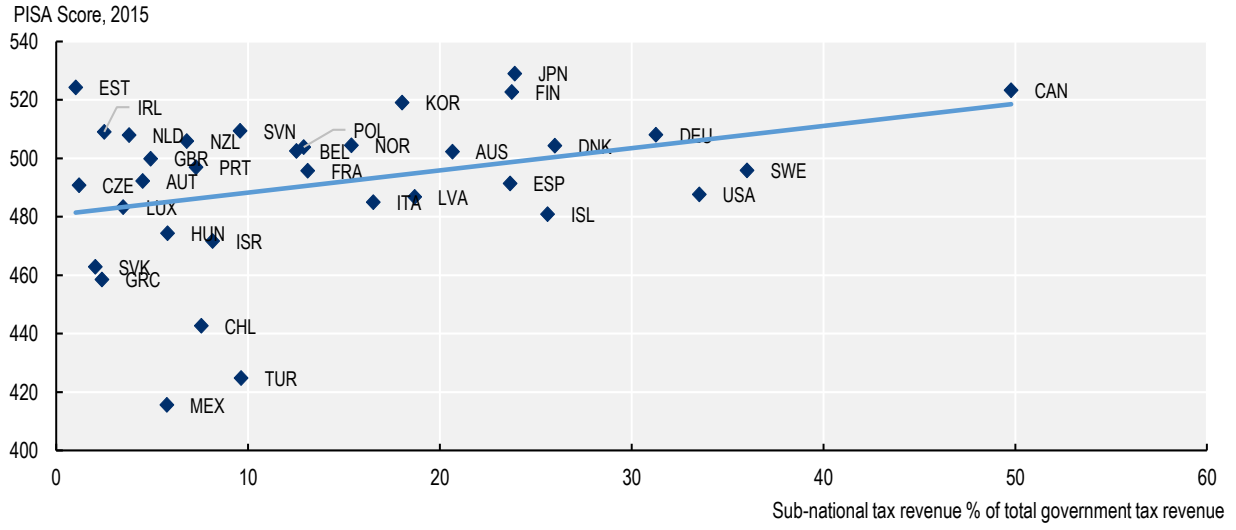
Decentralisation, public services and social capital

Better adapting to the preferences of the community remains one of the key rationales for decentralisation. It is therefore unsurprising that decentralisation has been empirically connected to improved efficiency of public services, under the right institutional conditions (Sow and Razafimahefa, 2018[25]). Moreover, by bolstering allocative efficiency, transparency, community participation and the perceived responsiveness of the public sector, fiscal decentralisation can engender greater social capital in the form of increased trust and co-operation (de Mello, 2004[26]).

Consistent with the growth literature, recent work on sectoral decentralisation suggests both benefits and limitations to decentralisation as a policy to enhance the performance of the education and health care sectors. In healthcare, research suggests costs fall and life expectancy rises with moderate decentralisation, but the opposite effects hold once decentralisation becomes excessive (Dougherty et al., 2019[10]). With respect to educational attainment, Lastra-Anadón and Mukherjee (2019[27]) find that a 10 percentage point increase in the subnational revenue share improves PISA scores by 6 percentage points, corresponding to an average improvement by around six positions in the PISA country ranking. The positive correlation between subnational tax revenue share and overall PISA scores in math, science and reading can be seen in Figure 1.4. A similar yet weaker relationship is found with other measures of education decentralisation, such as school autonomy or subnational education spending.

Figure 1.4. Decentralisation is positively associated with educational performance

Tax revenue decentralisation and overall PISA scores, 2015



Source: Education at a Glance, OECD Fiscal Decentralisation database.

StatLink https://stat.link/ul3z6e

Improving sub-central fiscal autonomy

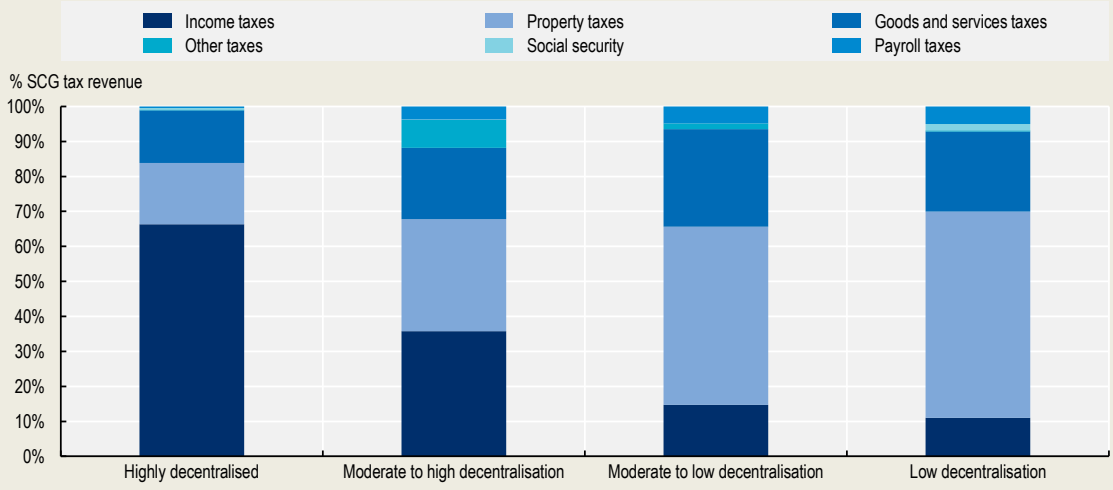
Fiscal autonomy is a rich concept, encompassing a diversity of measures that reinforce efficiency, equity and cohesion within and among SCGs. Important in enabling fiscal decentralisation, fiscal autonomy requires that SCGs receive adequate tax autonomy, spending power and/or fiscal equalisation (or similar transfers). In essence, fiscal autonomy should support the objective of ensuring that SCGs have sufficient fiscal capacity to fulfil their mandates. Depending on the structural context, fiscal autonomy may reduce the need for vertical transfers while allowing for better adaptation to local preferences. This implies that SCGs adjust their own-source revenues to match their spending responsibilities. Where possible, the role of transfers should be to correct for structural income differences among SCGs and their respective tax revenue potentials, rather than to compensate for the failure to fully exploit the local tax base (Box 1.2).

Box 1.2. SCG own-source revenues, tax autonomy and decentralisation

At present, SCGs draw their own-source revenues from a range of streams with income, property and consumption taxes being the primary instruments. Other taxes play a comparatively minor role. The tax mix itself appears strongly related to the extent of decentralisation, as shown in Figure 1.5. In more centralised countries, SCGs rely largely on (immovable) property taxes. Among the bottom 50% of OECD countries in terms of SCG revenue as a percentage of total government revenue, property taxes constitute 48% of the SCG tax mix on average. As decentralisation increases, income taxes start to play a greater role. SCGs in the top quartile in terms of SCG revenue as a percentage of total government revenue see income taxes constituting on average 62% of their tax mix. The subnational tax mix has changed relatively little over the last 20 years, with a decline in the share of property taxes and a rise in the share of consumption and income taxes – especially personal income tax. Since around 2010, the property tax share has again been on the rise. Overall, the subnational share of total taxation has hardly increased (see Figure 1.2, Panel B).

Figure 1.5. The sub-central tax mix shifts from property to income taxes as decentralisation increases

Sub-central revenues as a % of total government revenue in OECD countries, with tax composition, 2019



Note: Each column represents a quartile of OECD countries in order of decreasing sub-central revenues as a share of total government revenue. Revenues from tax-sharing agreements where the SCG does not control the rate are not included. Where data for 2019 was not available at the time of publication, data for 2018 was used.
Source: OECD Global Revenue Statistics database.

StatLink https://stat.link/fu3nje

Like the SCG tax mix, sub-central tax autonomy varies substantially by country. In particular, a clear difference is apparent between the level of SCG tax autonomy in federal and unitary countries (see Chapter 3). Of the ten OECD countries with a federal or quasi-federal structure (i.e. with state or regional governments), seven have a very high degree of tax autonomy. In three – Australia, Switzerland, and the United States – state-level governments have full autonomy over 100% of their tax revenue. In another three federal/quasi-federal countries-Canada, Belgium and Spain- over 90% of state-level revenue is classified as fully autonomous, and in one additional federation, Mexico, the share is over 80%. In contrast, full SCG tax autonomy is infrequently observed within unitary countries. However, Dougherty et al. (2019[2]) notes that within 16 of 35 OECD countries examined, local governments have a substantial amount of tax autonomy, with full or restricted discretion on tax rates for at least 85% of their tax revenue.

SCG fiscal autonomy: Adapting to local preferences while spurring competition, convergence and investment

Consistent with the theoretical foundations established by Oates (1972[6]), enhancing SCG fiscal autonomy allows the bundle of public goods consumed to be selected locally, thus better matching local preferences. Additionally, sub-central fiscal autonomy enables interregional competition—not only in terms of tax rates, but just as importantly in terms of public services. Naturally, this may give rise to fears of predatory tax competition or worsening inequality. However, OECD research suggests that fiscal decentralisation is generally conducive to convergence, both in terms of tax rates and per capita income (Blöchliger, Bartolini and Stossberg, 2016[24]) .

Decentralisation has also been linked to greater public investment, with a 10% point increase in decentralisation (as measured by both SCG spending and revenue share of government total) "lifting the share of public investment in total government spending from around 3% to more than 4% on average" (Blöchliger, Égert and Fredriksen, 2013[19]). The investment driven by decentralisation appears to accrue principally to soft infrastructure, that is human capital as measured by education. As with tax rates and income, the link may be explained by the pressures of interregional competition, which drives productive investment as regions aim to attract workers and firms.

The role of grants and transfers

Various circumstances may lead SCGs to be unable to fully fund their spending responsibilities using own-source revenues. The gap may be driven by a combination of both structural inequalities related to geography and income as well as inadequate fiscal autonomy. Filling the gap may require vertical transfers or grants from central government (and sometimes horizontal transfers from other SCGs). However, it is important to differentiate between grants that rectify structural inequalities (e.g. equalisation) and grants that are necessitated by inadequate fiscal autonomy and therefore displace own-source revenues. This is because excessive reliance on grants in place of own-source revenues can pose certain problems, particularly in the absence of proper transfer design. In addition to their pro-cyclical tendencies, grants are susceptible to the tumultuous character of political economy: complex formulas are vulnerable to rent seeking, which can cause an inefficient or regressive allocation of government spending. Lastly, grant-related dependence on other levels of government can reinforce deficit bias where the transfer system rewards larger sub-central fiscal gaps (OECD/KIPF, 2016[4]).

Fiscal equalisation as the companion of fiscal autonomy

Fiscal equalisation plays an important role in rectifying structural inequalities by correcting for economic conditions beyond the control of local government with the aim of mitigating differences in service quality between regions (OECD, 2013[5]). In order to encourage optimal exploitation of the local tax base, revenue-equalising transfers should be calculated based on potential revenue (i.e. tax effort) as opposed to actual revenue. Meanwhile, cost-equalising transfers should be based on a few key indicators or standardised costs, rather than actual expenditure. In addition, institutional measures such as arms-length oversight bodies and budget rules should be employed to help to ensure the effectiveness of equalising transfers.

Guidance from country surveys

The synthesis below is based on Forman, Dougherty and Blöchlinger (2020[28]). OECD *Economic Surveys* are cited by name and year, and more information is available at: www.oecd.org/economy/surveys/.

Table 1.1. Typical recommendations to improve fiscal capacity

Strengthen own-source revenues					Raise SCG spending power	Reduce transfer dependence through exploiting local tax base
Boost property taxation			Piggy-back taxes	Improve consumption taxes/use destination-based VAT		
Raise rates	Broaden the base	Update valuations				
Finland, Denmark, Mexico, the Netherlands, Korea	Australia, Mexico	Austria, Belgium, Estonia, Finland, France, Germany, Greece, Indonesia, Mexico, Portugal and Sweden	Austria, Australia, Korea	USA, Brazil	Korea, Belgium, Australia, Canada, Czech Republic, France, Japan, USA	Japan, German, Belgium, Italy, Switzerland

Note: This table depicts typical recommendations to improve SCG fiscal capacity followed by a sample of the countries to which they have been made. The first of the three primary recommendations in the top row – strengthen own-source revenues – is divided into several sub-recommendations.

Strengthening own-source revenues

The principal survey recommendation related to fiscal autonomy is to strengthen the SCG tax base including through property taxation, consumption taxes and income taxes. Sometimes this is merely a matter of encouraging SCGs to employ powers that they currently possess, but have been hesitant to use for political reasons. For example, Spain (2007) was urged to encourage regional and local governments to more fully take advantage of their own taxing powers. Korea (2008) was advised to support SCGs in changing local income tax rates to increase self-sufficiency while avoiding volatile revenue sources like corporate taxes. In certain cases, SCGs do need new powers to secure own-source revenues. Mexico (2013) was urged to allow states to charge income and consumption taxes over and above the equivalent federal taxes. Economic surveys have consistently recognised the importance of allowing SCGs to harness their own tax bases—not only to replace transfers, but also to motivate local authorities to pursue policies that encourage revenue-enhancing economic growth.

The mobility of the tax bases assigned to the sub-central level is a particularly important consideration in the context of fiscal decentralisation. Box 1.3 summarises OECD guidance for policy makers when designing the SCG tax mix.

Box 1.3. Considerations for the SCG tax mix

Less mobile tax bases are more suitable as revenue sources for SCGs given the possibility of predatory tax competition between jurisdictions.

- Examples of taxes suitable for subnational assignment include taxes on immobile bases, resource royalties, conservation charges, single stage sales taxes, motor vehicle registration taxes, business taxes, parking taxes, property taxes, and personal income surcharges.
- Taxes less suitable for assignment to lower levels of government include customs duties, value-added tax, corporate income tax, wealth/inheritance and carbon taxes. These taxes may be better levied at the national level.

Property taxation has distinct benefits, but these are undermined when valuations are out of date. For example:

- Property taxes induce fewer behavioural distortions when compared with other taxes and are harder to avoid.
- Property taxes tend to be progressive.
- Empirical work suggests a shift to property taxation may be growth enhancing.

Consumption taxes have the advantage of efficiency and when properly designed need not undermine equity. For decentralised countries, switching to a destination-based VAT is often desirable, although this can limit the scope of SCG fiscal autonomy.

Piggy-backing SCG income taxes on central government income taxes can help to allocate tax room between the two levels of government, but can also lead to administrative complexity.

Sources: OECD (2006[29]); Hagemann (2018[30]); OECD (2019[12]).

Property taxes

The recommendation to strengthen subnational own revenue by increasing property taxation has featured across numerous country surveys.[2] For 22 countries, surveys urged a "boost" to property taxation (Hagemann, 2018[30]). Such a "boost" would typically take one of three forms: raising rates, broadening the base or updating valuations.

Raising rates

Raising rates, that is increasing the rate at which immoveable property is taxed, was recommended in the cases of Finland (2014), Denmark (2012, 2014), Mexico (2013), the Netherlands (2010) and Korea (2005). In Finland, the survey noted that the central government had taken action to raise the band of permissible property tax rates from which municipalities could choose. Similarly, Mexico was advised to allow municipalities to decide their own property tax rates in an effort to increase them. The survey noted the particular challenge posed by the need for congressional approval to raise rates, creating a political incentive to deny permission. In the Korean case, the survey called for increasing local government revenues through greater taxation of property holdings. This would serve as a partial replacement for transaction taxes. Transaction taxes are seen to reduce labour mobility and land use efficiency, whereas taxes on property holdings may encourage efficient land use. In particular, the government was encouraged to accelerate the rise in effective tax rates on property holdings from 0.1% to 1%.

Broadening the base

SCGs should ensure that their property tax base is sufficiently broad by e.g. reducing exemptions and tax-free thresholds, as recommended in the cases of Australia (2006) and Mexico (2013). The Australian survey noted that tax exemptions on the following types of holdings lead to an excessive narrowing of the property tax base: owner-occupied residential land, primary production land and land held by charities and religious bodies. Moreover, tax-free thresholds were set for low value commercial and industrial holdings. In fact, this created an incentive to sub-divide plots as a way of avoiding taxes. In Mexico, the property tax base was undermined by limited technical capacity to administer the tax system and failure to track property values and ownership.

Updating valuations

Out of date property values have been identified as lowering SCG property tax revenues across a range of surveys including Austria, Belgium, Estonia, Finland, France, Germany, Greece, Indonesia, Mexico, Portugal and Sweden (Hagemann, 2018[30]). In particular, the Austrian survey (2005) noted that "up-to-date valuation of real estate is a precondition for strengthening revenue-raising powers of municipalities on the basis of real estate taxes". In some cases, out of date values have been linked to infrequent updating of property registries (Almy, 2014[31]). In Mexico, the lack of regular valuation kept taxed property values well below market value with data showing "cadastral values 60% below market values in about half of the 32 states". In the Belgian case (2015), a similar problem of infrequent valuations was observed. One solution discussed was devolving responsibility for updating the cadastre to the regions by creating regional cadastres. This would resolve the mismatch between the federal responsibility for updating valuations and the increases in regional revenues that would arise from the updates. Such a move would be broadly consistent with the objective of aligning revenues with responsibilities.

Piggy-backing taxes

A recurrent theme across both the Network's publications and country surveys has been the balanced apportioning of fiscal room across central and sub-central government. For example, in the case of "piggy-back" taxation, SCGs add their own income tax on top of the tax charged by central government. This can maintain administrative simplicity in cases where the piggy-backed tax is also collected centrally (and then distributed). Austria (2005) was encouraged to consider doing precisely this, incorporating a state-level tax into its income tax schedule. To prevent shrinkage of the tax base, it was also suggested that the federal government should prescribe a range of rates from which all SCGs could choose. Piggy-backing income tax was also discussed in the case of Australia (2006), where it was proposed that the states implement an income tax surcharge to replace grants that they had received from the commonwealth. Ceding tax room to SCGs need not be restricted to income taxation. For example, it was recommended that Korea (2008) replace the nationwide comprehensive property tax (CPT) with increased local property taxes.

Improving consumption taxes: Destination-based VAT

Consumption taxes are thought to be less distortionary and more conducive to growth than most other forms of taxation and policy options exist to enhance their progressivity (Cournède, Fournier and Hoeller, 2018[32]). In the case of SCGs, some surveys have posited a destination based VAT as the preferred approach to the taxation of consumption. In contrast with origin-based taxes, destination-based taxes avoid distorting the producer's choice of location (given that the consumer is considered less mobile).[3] Both the United States (2005) and Brazil (2009) were advised to consider this approach.

Raising SCG spending power

The second component of fiscal autonomy is spending power. As spending power is typically more decentralised than tax autonomy (Figure 1.2, Panel A), it is unsurprising that measures to increase SCG spending power have been featured less prominently than measures to raise tax autonomy among the surveys reviewed. However, eight of the surveys did include explicit calls to increase the spending power of SCGs, typically through devolution of responsibility (an aspect of spending autonomy).

Adequate SCG spending power both enables adaptation to local preferences and reinforces a visible connection between local taxes and service provision, which drives efficiency and service improvements. This is particularly true in cases where the benefits of a certain service are localised to the jurisdiction where they are delivered (Oates and Schwab, 1988[33]). For example, in Korea (2008) the gap between the range of services available in communities – such as education and policing – and the limited role of local government in funding them, motivated recommendations to both raise local property taxes and assign greater spending responsibility to municipalities. Similarly, it was recommended that municipalities in Belgium (2009) take on financial responsibility for social assistance. Again, this was seen as a way of incentivising local government to provide more suitable and better-adapted support to the long-term unemployed. In bearing the cost of social assistance, municipalities would realise a monetary benefit from successfully transitioning people back into the labour market. In this way, reducing the cost of the service would require improving outcomes.

More broadly, recommendations that would increase the spending power of SCGs were also included in the *Surveys* of Australia (give states full management of education funding), Canada (enhance municipal fiscal capacity), the Czech Republic (encourage municipalities to offer childcare), France (ensure regions have adequate fiscal capacity to support vocational training), Japan (provide local governments with greater financial resources), and the United States (assign responsibility for highway funding to states).

Reducing transfer dependence

While well-designed transfers can be an important source of SCG financing, under certain circumstances they can be replaced by stronger own-source revenues that require less dependence on higher levels of government. The recommendation to reduce SCG dependence on transfers through raising own-source revenues has featured prominently in several country surveys. For example, it was observed for Japan (2005) that the former grant system undermined SCGs' incentives to develop own-source revenues. Subsequent economic surveys acknowledged the positive effect of the so-called "trinity reforms" in furthering fiscal decentralisation through the transfer of tax revenue from the centre to SCGs. In fact, a recent survey of Japan (2017) provided evidence that these reforms have succeeded in reducing excessive allocation to public works (in lieu of other priorities). Similarly, transfer dependence among German *Lander* has been given extensive treatment in *Economic Surveys*. Recommendations for Germany (2006) include redesigning the equalisation system to enable the *Lander* to retain more own-source revenue, and increasing the scope of the *Lander* to generate such revenue.

Transfer reform and own-source revenues: Two sides of the same coin

Belgium's country survey (2009) highlighted the complementarity of intergovernmental transfer reform and measures to strengthen own-source revenues. While the survey suggested reducing transfers to the regions (which would improve the revenue base of the federal government), SCGs were encouraged to utilise their own taxing powers to generate revenues. This advice was broadly reflected by the Sixth State Reform of 2012-14, which strengthened regional fiscal autonomy. Similarly, the economic surveys of Italy (2007) and Switzerland (2015) contained similar recommendations to constrain transfers as a way of encouraging SCGs to cultivate their own tax bases. In the Italian case, the use of a system of standardised

costs and less than 100% equalisation was seen as the way to achieve this. In the Swiss case, there was a comparable recommendation to reduce transfers to cantons whose tax effort was below par.

Delineation, fragmentation and assignment

It is always desirable to delineate responsibilities logically and to assign policy functions clearly. Where functions are not properly delineated between levels of government, fragmentation and overlap may arise. Box 1.4 presents key guidelines for successfully assigning responsibilities in the context of multi-level governance.

Box 1.4. Ten guidelines for effective assignment of responsibilities to make decentralisation work

Ten guiding principles, which apply to all types of countries, have been identified. They are set out below:

1. Clarify the policy areas assigned to different government levels to avoid duplication, waste and loss of accountability.
2. Clarify the functions assigned to different government levels such as financing, regulating, strategic planning, implementing, or monitoring.
3. Ensure balance in the way different policy areas and functions are decentralised. This allows for complementarity and integrated policy packages for territorial development.
4. Align responsibilities and revenues while enhancing the capacity of subnational governments to manage their own resources.
5. Actively support subnational capacity building. More responsibilities at the subnational level need to be complemented with the human resources to manage them.
6. Build adequate co-ordination mechanisms across levels of government to manage shared responsibilities
7. Support cross-jurisdictional co-operation through specific organisational arrangements or financial incentives to increase efficiency through economies of scale.
8. Allow for asymmetric arrangements and pilot experiences to ensure flexibility in implementation.
9. Effective decentralisation requires complementary reforms in land-use governance, citizen participation and public service delivery.
10. Enhance data collection and strengthen performance monitoring to provide useful data for decision making and peer learning.

Source: OECD (2019[12]).

As seen in Box 1.4, clear delineation of responsibilities often relies on the basic principle that sub-central spending should be covered as much as possible by sub-central own taxes, with equalisation compensating for structural inequalities. A similar idea is that a given public service should be assigned to the level of government whose geographical extent covers both residents who benefit from that public service and the residents who pay for it. For example, if commuters from outside city limits use the public transit system of the city in which they work, a regional public transit system should be created to cover the entire area. This minimises externalities and helps to define an optimal size for an administrative region.

Signs of delineation problems

Examining the mismatch between spending shares and spending power can provide insight into the extent of delineation problems. Typically, actual spending power is more limited than spending shares would suggest because central governments may choose to delegate certain spending to SCGs while still exerting substantial control over service delivery. For example, a high spending share in the presence of low spending power may indicate that the SCG functions merely as an agency charged with implementing the central government's policies. This may lead to excessive constraints on the SCG's ability to meet the needs of its constituents, undermining the core objective of decentralisation. A notable attempt to address this can be found among the "free municipality" initiatives of the Nordic countries. For example, in Denmark municipalities were given more leeway in structuring the services that they pay for in order to better meet the needs of their residents (Allain-Dupré, 2018[34]).

The OECD's spending power indicator has the potential to illuminate the extent of the gap between spending share and spending power (OECD/KIPF, 2016[4]; Dougherty and Phillips, 2019[3]), but where quantitative data is unavailable, qualitative evidence of fragmentation can also suggest a delineation problem. One indicator of delineation problems is a lack of correspondence between administrative boundaries and the natural geographical expanse of a particular service, such as transportation or water governance. Reassigning public functions and co-ordinating between regions can lead to better alignment. For example, municipal mergers can go together with greater responsibilities for the merged administrations. In several countries, a new intermediate (regional) level was created to take over responsibility for higher education, specialised health care, transport infrastructure and economic affairs (OECD, 2019[12]).

Guidance from country surveys

Fragmentation can occur across two dimensions: vertical and horizontal. In the former case, a single policy functions is spread incoherently across different levels of government. In the latter case, numerous small SCGs at the same level are assigned responsibility for a given public service without adequate co-ordination. In both cases, co-ordination failures and foregone economies of scale can arise due to fractured service provision and incongruous policies. Both horizontal and vertical fragmentation can seriously undermine the quality of public services and cause needless inefficiency. In response to vertical fragmentation, economic surveys have often recommended consolidating responsibility for an entire public service within a single level of government. In the case of horizontal fragmentation, they have tended to recommend enhanced co-operation or mergers of local government service providers.

Table 1.2. Surveys have called upon both federal and unitary countries to reduce vertical and horizontal fragmentation

References to fragmentation among country surveys reviewed

	Reduce vertical fragmentation	Reduce horizontal fragmentation
Unitary countries	Spain, France	Japan, Denmark, Norway, France
Federal countries	Australia, Switzerland, Germany, Mexico	Mexico, Belgium, Austria

Complex systems like health care, education and social services are particularly susceptible to vertical fragmentation

Among the surveys reviewed, nearly 40% of the delineation-related (Type II) recommendations pertained explicitly to health care, education or social services. This suggests that large, complex sectors face particular challenges with respect to overlap and fragmentation. For example, in terms of health care, the economic survey of Australia (2014) noted that primary care was allocated to the Commonwealth while states retained responsibility for public hospitals. This created opportunities for cost shifting, such as public hospitals passing the burden of post-operative care onto general practitioners. The same survey noted that Australia's education system was affected by "complex and opaque funding arrangements" involving multiple levels of government. In a similar vein, the French vocational training system was seen to suffer from delineation problems. A 2014 reform introduced roles for a diverse range of actors such as national government, regions, and chambers of commerce. In addition, co-ordinating bodies were put in place at both the national and regional levels. This lead to a lack of clarity with respect to overall responsibility for the new system (Brandt, 2015[35]). In Mexico, the education system was found to be highly fragmented between the federal and state governments. An opaque, multi-part grant system was used to channel funds from the centre to the states, leading to asymmetries in the delivery of education services across the territory. In the area of social services, the economic survey of Spain (2008) identified a disconnect between the financing of unemployment benefits at the national level and the management and design of labour market reintegration support at the regional level. As regions received more funding when they faced a larger unemployed population, there was little incentive for them to design policies that reduce long-term unemployment.

Assignment to a single level can be a remedy for fragmentation

The typical remedy for fragmentation is to ensure that complete responsibility for a given public service is assigned to a single level of government. SCGs are often heavily involved in providing public services and assigning responsibility to them may allow for adaptation to local preferences. In the Australian case, the survey recommended clarifying roles and improving co-ordination between levels of government, while noting that in some cases reallocation of responsibility for an entire sector to a specific level of government may be necessary. This was consistent with the findings of Australia's National Committee of Audit (NCA), which argued for complete state-level control over funding allocations to schools. Similarly, the economic survey of France (2014) recommended that the respective roles of national and regional vocational training councils be clarified to ensure that they did not interfere with one another. In particular, it was recommended that spending responsibility be assigned to one actor (e.g. regions). In the case of the Spanish unemployment system, the survey suggested it would be ideal to assign both financial responsibility for unemployment benefits and implementation of active labour market policy (ALMP) to the same level of government. However, acknowledging the political complexity of the task, the survey called for better monitoring and evaluation of ALMP implementation.

Co-funding in federations: An indication of fragmented assignment

Multi-level co-funding, that is joint funding provided by multiple levels of government, may be a sign of fragmentation. While multi-level co-funding can be justified when there are clear inter-regional spill-overs, such spill-overs are not always present. The economic surveys of both Germany (2006) and Switzerland (2006) highlighted inefficiencies arising from federal-state co-funding arrangements. First, states face an incentive to spend on projects even when the associated benefits are small, which can undermine a clear connection between cost and service provision in the eyes of the public. Second, complex mediation processes between governments can slow things down. Third, the administration of the funding can be costly and impede programme evaluation. Finally, the rigidity of earmarked funding from the federal government can undermine optimal allocation by SCGs.

To resolve these challenges, the surveys recommend moving away from systems of earmarked co-funding based on expenditure. Instead spending responsibility should be clearly assigned to the SCGs, with fiscal inequality corrected by revenue equalisation. Consistent with these recommendations, the Swiss reform of 2003 reduced the grant system by around 30% by assigning funding and regulatory power either fully to the federal or state level. At the same time, the portion of total transfers to cantons available to help them shoulder their new responsibilities increased from 25 to 40%.

It is important to note that where SCGs are unable to finance expenditure on critical social infrastructure such as primary education, well designed co-funding can play an important role. For example, the economic surveys of Germany (2016, 2018) recognised the removal of constitutional barriers to federal co-funding of education as a positive step towards helping financially weak municipalities make important investments in local education infrastructure.

Horizontal fragmentation and geographical divisions

Whereas the gap between spending share and spending power suggests vertical fragmentation between levels of government, excessive geographic division of local services indicates horizontal fragmentation. Horizontal fragmentation may lead to an obvious inefficiency arising from the inability to exploit scale economies, however an additional inefficiency arises from the co-ordination problems associated with unnatural divisions of cross-jurisdictional issues. In these cases, cross-border externalities may lead to a mismatch between the paying and benefitting jurisdictions. Synergies from amalgamating services across borders may improve outcomes, including in the areas of transport, urban waste management, water supply, fire-fighting and hospital administration (de Mello, 2019[7]).

The *Valle de México* metropolitan area provides an example of failure to integrate policy across a region. Land use planning is largely divided along the boundary lines of the 51 municipalities in the area. Similarly, public transport provision is fragmented between Mexico City and the State of Mexico. One remedy discussed in the Mexico surrvey (2019) would be to create metropolitan structures for cross-boundary public service delivery and integrated urban planning. A legal mechanism that fosters co-operation across different policy areas would help to overcome fragmentation.

Where small municipalities are struggling to provide cost-effective public services, amalgamation of jurisdictions is an obvious solution but not always optimal. Inter-municipal co-operation arrangements are more flexible and can be designed to take into account the differing functional areas (geographical zones) that make most sense for a given service. Though sometimes outright mergers of small municipalities have been recommended, such as in France (2015), Norway (2010) and Austria (2005), for Japan it was recommended that greater focus be placed on inter-municipal co-operation arrangements built around collaborations to provide an individual service or set of services. Underscoring the broad applicability of inter-municipal co-operation to avoid horizontal fragmentation, de Mello (2019[7]) provides further examples of this approach in Finland, France, Italy and Turkey.

A particularly interesting response to geographical fragmentation is found in the Belgian case. Co-ordination problems related to water policy were observed to derive from the fact that authority in this area was assigned to regions, whereas river basins do not follow regional borders. It was therefore suggested that water policies be better integrated by establishing water authorities at either the river basin or the national level (OECD, 2011[36]). Subsequent to this recommendation, Belgium's Sixth State Reform led to broad changes in the institutional context as more competences were devolved to the regions. Nonetheless, overcoming geographical fragmentation remains important. This is facilitated by cross-regional bodies, such as the *Groupe Directeur Eau* which co-ordinates interested parties in the area of water governance (Bruxelles environnement, 2019[37]).

In certain cases, geographical fragmentation has motivated the creation of new regional levels of government. In Denmark, a wide-ranging municipal government reform was partially motivated by the view that health care provision was too fragmented across small administrative units. In response, health care responsibilities were re-assigned to one of five newly created regions (OECD, 2012[38]).

Internal market and co-ordination barriers

Intergovernmental fiscal relations are by no means restricted to questions of fiscal policy. Co-ordination and information flows also play a central role in effective fiscal federalism. For example, co-ordination failures may lead to different levels of government working at cross-purposes. Lack of monitoring and benchmarking may allow service standards to slip, particularly when data are absent or inaccessible. Regulatory barriers to intra-national trade may hamper the free flow of goods, capital and labour within a country. Needless variation in SCG procedures may undercut the benefits of scale, particularly in the area of procurement. Finally, inadequate human and physical capital within the subnational public service can impede policy implementation.

Avoiding these issues in decentralised settings requires adequate inter-governmental fiscal co-operation (IFC). IFC can reinforce regulatory coherence between levels of government, while reducing policy contradictions or tensions and eliminating internal market barriers. Similarly, co-operation can facilitate the sharing of skills and technologies between SCGs. It can also create “peer pressure” to support adhering to agreed-upon rules or adopting common standards. Finally, IFC can help SCGs harness economies of scale in both important areas of public spending (e.g. infrastructure) and administration (e.g. taxation or procurement) (Ter-Minassian and de Mello, 2016[39]; de Mello, 2019[7]).

Illustrative examples of IFC in practice are provided by both Canada (federal) and Denmark (unitary). In Canada, the Council of the Federation, a body composed of provincial and territorial Premiers, acts as a forum for IFC. It has promoted co-operation in the areas of internal trade, health care, water resources, energy and transportation (Ter-Minassian and de Mello, 2016[39]). In Denmark, a 2007 reform of local government aimed to implement complementary vertical fiscal co-operation (additional grants and funds from central government to compensate SCGs for new costs) and horizontal fiscal co-operation (mergers of municipalities). In this case, IFC served to link “a territorial reform, a reallocation of tasks across levels of government, and a financing and equalisation system reform. This allowed compensating costs and benefits to carry over from one reform element to the other” (OECD, 2012[38]).

Based on a synthesis of OECD economic surveys, seven broad types of recommendations to support IFC in decentralised settings were identified: improve policy alignment and co-ordination between levels of government, eliminate internal market barriers and reduce regulatory fragmentation, enhance monitoring including through oversight at the national level, benchmark performance nationally and internationally, improve the quality and accessibility of performance measurement data, implement joint procedures and centralise procurement across SCGs, and build SCG professional capacity. Table 1.3 shows, which countries have been subject to these recommendations.

Guidance from country surveys

Improve policy alignment and co-ordination across levels of government

Any form of multi-level governance introduces the possibility that different levels of government may be working at cross-purposes. In the context of fiscal decentralisation, the prospect of contradictory, poorly co-ordinated or misaligned policy takes on new dimensions as questions of efficiency and incentives come into play. Indeed, co-ordination across levels of government, and in particular vertical co-ordination, has been identified as a key challenge in governance and fiscal policy by the OECD, IMF and European

Committee of the Regions (Allain-Dupré, 2018[34]). This is reflected within the recommendations of the economic surveys, which have explicitly identified policy alignment and co-ordination as areas for improvement in several cases (Box 1.5).

Table 1.3. There are seven major recommendations pertaining to reducing internal barriers and improving co-ordination

References to reducing internal barriers and improving co-ordination among country surveys reviewed.

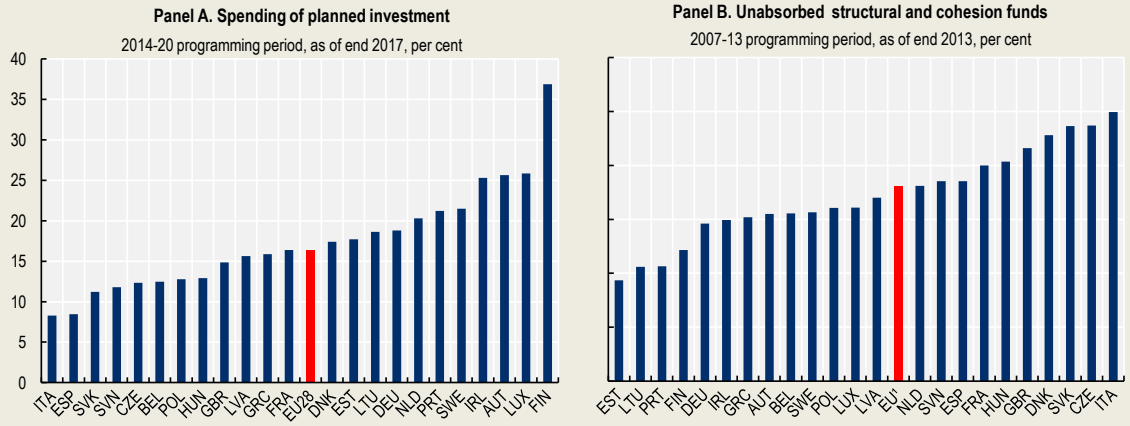
	Improve policy alignment and co-ordination between levels of government	Eliminate internal market barriers and regulatory fragmentation	Enhance monitoring, including through oversight at the national level	Benchmark performance nationally and internationally	Improve quality and accessibility of performance measurement data	Implement joint procedures and/or centralise procurement across SCGs	Build SCG professional capacity
Australia	✓				✓		
Austria	✓			✓			
Belgium	✓	✓	✓				
Canada		✓					
Czech Republic	✓						
Denmark			✓				
France					✓	✓	✓
Germany		✓			✓		✓
India				✓			
Indonesia							✓
Italy	✓			✓	✓	✓	
Mexico			✓		✓		✓
Spain	✓	✓	✓	✓			
Switzerland	✓	✓	✓		✓	✓	

Box 1.5. Unabsorbed EU funds: An indicator of co-ordination failures and lack of capacity

Among EU countries, trouble absorbing EU funds can be a sign of poorly co-ordinated fiscal policy as well as inadequate SCG capacity (Figure 1.6). Recent OECD work has identified both capacity constraints and co-ordination deficiencies as encumbering the use of diverse financing mechanisms by SCGs (OECD, 2018[40]). In particular, 68% of respondents to a 2016 Committee of the Regions survey on obstacles to local and regional investment identified "capacity to design and manage public investment and PPPs funded by the EU Structural Funds and other EU programmes " as either a challenge or major challenge for local/regional authorities (OECD-CoR, 2016[41]). The 2018 OECD economic survey of the European Union highlighted the importance of streamlined administration and enhanced administrative capacity to ensure the uptake of EU funds, particularly when it comes to co-ordinating with SCGs. Country surveys have echoed a similar message. For example, in Italy the central government's failure to work effectively with local administrative agencies was cited as an impediment to the disbursement of EU Structural and Cohesion Funds. The surveys (2017, 2019) called for the central government to strengthen its role in setting minimum standards for project preparation and execution, while ensuring that a central co-ordinating agency had sufficient power to support regional efforts in implementing the projects. Likewise, the Czech Republic's struggle to effectively absorb EU funds was linked to co-ordination issues arising from a heavily decentralised administration

of the associated programmes in its 2008 survey. In response, a general simplification of the administrative process was recommended. Beyond EU funds, similar problems can arise when countries are faced with managing their own fiscal space. In Switzerland, the 2017 survey called on federal and cantonal governments to improve co-ordination to ensure that the significant fiscal space available was adequately utilised and to avoid persistent underspending.

Figure 1.6. Unabsorbed EU structural and cohesion funds and spending of planned investment



1. Unweighted average across 25 EU countries.
Source: Caldera Sánchez (2018[42]), data from European Commission (2018), "Open Data Portal for the European Structural and Investment Funds (https://cohesiondata.ec.europa.eu/)"; European Commission (2014), "Analysis of the Budgetary Implementation of the Structural and Cohesion Funds".

StatLink https://stat.link/tudsxk

The economic surveys have recommended increased multi-level co-ordination and policy alignment across a diverse range of government functions. Concerning environmental policy, Spain (2014) was urged to improve the horizontal alignment of regional pollution taxes by implementing a uniform tax among jurisdictions to increase efficiency. Austria (2005) was urged to focus on the vertical alignment of state and federal environmental objectives. A particular example is a major infrastructure project, which was supported by the federal government because it would aid the sustainability of transport, but simultaneously opposed by local government owing to concerns about local nature protection.

Other areas where increased co-ordination has been called for include health care, R&D, labour market and migration policy. In Australia (2014), improved state-federal co-ordination in health care was seen as a way of reducing the incentive to cost-shift between levels of government. Likewise, it was observed that lack of co-ordination was the leading cause of inefficiency in Switzerland's (2015) highly fragmented health care system. In Austria (2005), vertical misalignment between federal and state R&D support programmes suggested a need for better co-ordination. State administered programmes were designed based solely on the needs of the state, without considering the federal government's broader objective of fostering innovation. Similarly, Spain (2014) was called upon to improve the effectiveness of public investment in R&D and to reduce duplication through improved co-ordination across levels of government, perhaps via the creation of a national public investment agency. The same survey noted a vertical misalignment between regions and central government with respect to labour market policy: while central government paid unemployment benefits, it was left to the regions to support job seekers in finding work. In Belgium, migration policy was subject to a complex division of responsibility between the federal government and regions. The federal government oversaw residence permits, while the regions were responsible for certain work permits. A third category of permit, work permits issued to those with limited right of residence

(e.g. asylum seekers), was issued by federal authorities. The 2015 economic survey of Beligum therefore called for careful co-ordination between levels of government, in particular to avoid harmful interregional competition such that variation in work permit rules did not become a distortionary factor in, for example, company location decisions.

An important area in which co-ordination was also advocated for is public investment – and infrastructure more broadly. In 2014, the OECD adopted the Council Recommendation on Effective Public Investment across Levels of Government which promotes vertical and horizontal co-ordination mechanisms, to enhance the effectiveness of public investment spending (OECD, 2014[43]). Specific modes of co-ordination cited include contracts, platforms for dialogue and co-operation, specific public investment partnerships, joint authorities, or regional or municipal mergers.

Eliminate internal market barriers and regulatory fragmentation

Internal market barriers include any impediment to the free-flow of goods and factors of production within a country that does not serve a useful social purpose. In some cases, such impediments come in the form of inconsistent or fragmented regulatory regimes. Examples include differing professional certification schemes across SCGs, different business licensing procedures, or needless inconsistencies in land-use regulations and building codes.

Economic surveys have identified internal market barriers and regulatory fragmentation as challenges in both federal and unitary contexts. However, given the often greater autonomy of SCGs within federations (Phillips, 2018[44]), it is unsurprising that the majority of references to internal market barriers pertain to federal countries. In Germany (2016) and Canada (2014), harmonising the recognition of immigrants' qualifications across SCGs was recommended to facilitate integration. In Switzerland, a similar call was made for labour market uniformity by reducing restrictions on labour market access between cantons. Additionally, the 2015 and 2017 surveys of Switzerland noted that cantons should harmonise building laws and codes. In Spain (2014), implementing the market unity law was endorsed as a way of reducing the regional barriers to entry posed by fragmentation in the business licensing system. Finally, market barriers also present themselves in emerging areas like renewable energy. In Belgium (2009), it was suggested that green and combined heat and power (CHP) certificates be made transferable between all regions.

Benchmark performance nationally and internationally

Monitoring, evaluation and oversight are inseparable from benchmarking. Benchmarking, the comparing of performance measurements to a reference point, has a special significance in the context of fiscal decentralisation. This is because decentralisation implies that benchmarking should take place at both the cross-jurisdictional and cross-country levels. Phillips (2018[44]) provides a survey of benchmarking systems, with a focus on the special relevance of benchmarking in decentralised settings as well as approaches to competitive benchmarking.

While benchmarking may be applied across all areas of sub-central jurisdiction, economic surveys provide some illustrative examples of contexts where it was explicitly recommended:

- *Australia*: Benchmarking the management of environmentally sensitive areas (2004 survey).
- *India*: Participating in an international survey as a way of benchmarking state-level educational outcomes (2011 survey). Continuing to benchmark states with respect to one another and to share best practises in "labour regulations and land laws" (2016 survey).
- *Italy*: Using cost benchmarking in public procurement (2015 survey).
- *Spain*: Benchmarking regional public services with respect to cost and quality (2010 survey).

Improve quality and accessibility of performance data

Benchmarking and performance measurement are dependent on the availability of relevant data at the sub-central level. Yet making quality data accessible is easier said than done. This lead to explicit calls for improving available data on SCG performance in the surveys of Australia (public service quality), France (public service quality and cost), Germany (performance of public-private partnerships), Italy (procurement costs), Mexico (budget disclosure and fiscal transfers) and Switzerland (public salaries).

Implementing joint procedures and centralising procurement across SCGs

Co-ordination can aid SCGs in overcoming the loss of scale that may be associated with some aspects of decentralisation. For example, a central purchasing body can help achieve larger procurement volumes and/or increased administrative efficiency (OECD, 2015[45]). These factors have helped to motivate inter-municipal shared service models for procurement in e.g. England (Murray, Rentell and Geere, 2008[46]) and Queensland, Australia. In Queensland, the implementation of the *Local Buy* shared procurement programme was estimated to be saving local authorities between USD 4 million and USD 7 million per year (Dollery, Hallam and Wallis, 2008[47]).

Centralising procurement at the subnational level is a theme observed across several economic surveys. In France, the exceptionally large number of municipalities (*communes*) was linked to sub-optimal purchasing practises. Centralised, electronic procurement was recommended in the 2015 survey to standardise processes. Similar recommendations were made for Germany (2016), with a particular focus on the need for up-skilling the local civil service. In Italy, the 2015 survey noted that a massive reduction in the number of subnational purchasing centres (from 32 000 to less than 40) had already been proposed as a way of centralising procurement. Finally, Switzerland was encouraged in the 2007 economic survey to harmonise procurement rules across cantons to increase process accountability and competition among suppliers.

Build SCG professional capacity

The existence of capacity limitations particular to SCGs is supported by ample evidence. Such capacity limitations can extend to human resources and physical capital within the public sector, including low technical skills of tax officials and limited use of modern IT systems (Ter-Minassian, 2021[48]). This is echoed by survey recommendations calling for professionalisation or up-skilling of the sub-central public service. In both France (2015) and Germany (2016), surveys called for improving the skills of employees involved in subnational procurement. In the German case, this was explicitly linked to the advent of e-procurement, which would require stronger skills in the areas of data analysis and re-use.

Some middle-income countries have received more general encouragement to increase the technical competency of SCGs. Mexico (2019) was urged to build capacity and professionalise the civil service at the state and municipal levels. Similarly, Indonesia (2016) was advised to expand assistance to help regions to improve budget planning and implementation capacity.

Enhance monitoring, including through oversight at the national level

Dougherty, Renda and von Trapp (2021[49]) note the emergence of subnational independent oversight bodies as a recent extension of the global trend towards using such institutions to support policy development and decision making. Independent oversight bodies can be divided into three types: Independent Fiscal Commissions (IFIs), Independent Productivity Commissions (IPCs) and Regulatory Oversight Bodies (ROBs).

The first and third type, IFIs and ROBs, are of particular interest in the context of fiscal decentralisation because of their respective roles in fiscal scrutiny and policy co-ordination. Several of the surveys called

for the use of oversight bodies or enhanced monitoring to support fiscal decentralisation, typically in a form resembling IFIs or ROBs. Importantly, many of these bodies were proposed at the national level in order to facilitate co-ordination among SCGs. For example, for Belgium it was recommended in 2011 that the National Account Institute or Federal Planning Bureau expand their scope to examine the fiscal consequences of the then current assignment of responsibilities across levels of government. Indeed, following the 2013 co-operation agreement on fiscal policy, the High Council on Finance had its scope broadened to monitor compliance with the agreement. The Council explicitly takes into account burden sharing among levels of government to ensure fairness when setting multi-annual budget targets. Similarly, Denmark's central government was encouraged in the 2014 survey to carefully monitor its division of fiscal responsibilities with local government. In Mexico, INEE, the national education oversight body, and the Ministry of Education were encouraged in 2019 to work together to enhance the monitoring and evaluation capacity of SCGs. In Switzerland (2009), education was also urged to be subject to greater cross-cantonal scrutiny, owing to differences in policy, spending and resources across cantons. In this context, the Swiss Conference of Cantonal Ministers of Education was referenced as an important forum for agreeing on minimum standards.

Finally, Dougherty et al. (2021[49]) also identify important instances of oversight bodies at the sub-central level (e.g. Ontario's Financial Accountability Office), noting as well that they may be co-ordinated at the national level (e.g. COAG in Australia). Surveys have sometimes made similar recommendations for oversight at the sub-central level. In Spain, monitoring and evaluation of employment services at the regional level was seen as a second-best alternative to fully assigning the provision of such services to central government (OECD, 2010[50]).

References

Akai, N. and M. Sakata (2002), "Fiscal decentralization contributes to economic growth: evidence from state-level cross-section data for the United States", *Journal of Urban Economics*, Vol. 52/1, pp. 93-108. [13]

Allain-Dupré, D. (2018), "Assigning Responsibilities across Levels of Government", *OECD Working Papers on Fiscal Federalism*, No. 24. [34]

Almy, R. (2014), "Valuation and Assessment of Immoveable Property", *OECD Working Papers on Fiscal Federalism*, No. 19. [31]

Blöchliger, H. and O. Akgun (2018), "Fiscal decentralisation and economic growth", in *Fiscal Decentralisation and Inclusive Growth*, OECD Publishing, Paris. [17]

Blöchliger, H., D. Bartolini and S. Stossberg (2016), "Does Fiscal Decentralisation Foster Regional Convergence?", *OECD Economic Policy Papers*, No. 17. [24]

Blöchliger, H., B. Égert and K. Fredriksen (2013), "Fiscal Federalism and its Impact on Economic Activity, Public Investment and the Performance of Educational Systems", *OECD Economics Department Working Papers*, No. 1051. [19]

Boadway, R. and S. Dougherty (2019), "Decentralisation in a globalised world: Consequences and opportunities", in *Fiscal Decentralisation and Inclusive Growth in Asia*, OECD Publishing, Paris, https://dx.doi.org/10.1787/a47d130f-en. [1]

Brandt, N. (2015), "Vocational training and adult learning for better skills in France", *OECD Economics Department Working Papers*, No. 1260, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jrw21kjthln-en. [35]

Bruxelles environnement (2019), *Coordination de la mise en œuvre de la politique de l'eau au niveau belge*. [37]

Caldera Sánchez, A. (2018), "Building a stronger and more integrated Europe", *OECD Economics Department Working Papers*, No. 1491, OECD Publishing, Paris, https://dx.doi.org/10.1787/4ce667b4-en. [42]

Cournède, B., J. Fournier and P. Hoeller (2018), *Public finance structure and inclusive growth*, OECD Publishing. [32]

de Mello, L. (2019), *Intergovernmental Cooperation: Challenges, Trends and International Experience*, Paper prepared for the "Jornada sobre Experiencias de Cooperación y Asistencia entre Municipios", University of Barcelona, Barcelona. [7]

de Mello, L. (2004), "Can Fiscal Decentralisation Strengthen Social Capital?", *Public Finance Review*, Vol. 32/1, pp. 4-35. [26]

de Mello, L. (2000), "Fiscal Decentralization and Intergovernmental Fiscal Relations", *World Development*, Vol. 28, pp. 365-380. [8]

Dollery, B., G. Hallam and J. Wallis (2008), "Shared services in Australian local government: A case study of the Queensland local government association model", *Economic Papers: A journal of applied economics and policy*, Vol. 27/4, pp. 343-354. [47]

Dougherty, S. and O. Akgun (2018), "Globalisation, decentralisation and inclusive growth", in *Fiscal Decentralisation and Inclusive Growth*, OECD Publishing, Paris. [22]

Dougherty, S., M. Harding and A. Reschovsky (2019), "Twenty years of tax autonomy across levels of government: Measurement and applications", *OECD Working Papers on Fiscal Federalism*, No. 29, OECD Publishing, Paris, https://dx.doi.org/10.1787/ca7ebc02-en. [2]

Dougherty, S. et al. (2019), "The impact of decentralisation on the performance of health care systems: A non-linear relationship", *OECD Fiscal Federalism Working Papers*, No. 27. [10]

Dougherty, S. and L. Phillips (2019), "The spending power of sub-national decision makers across five policy sectors", *OECD Working Papers on Fiscal Federalism*, No. 25, OECD Publishing, Paris, https://dx.doi.org/10.1787/8955021f-en. [3]

Dougherty, S., A. Renda and L. Trapp (2021), "Independent oversight bodies: lessons from fiscal, productivity and regulatory institutions", in *Making Institutions Work*, HSRC Press. [49]

Filippetti, A. and A. Sacchi (2016), "Decentralization and economic growth reconsidered: The role of regional authority", *Environment and Planning C: Government and Policy*, Vol. 34/8. [21]

Forman, K., S. Dougherty and H. Blöchliger (2020), "Synthesising good practices in fiscal federalism: Key recommendations from 15 years of country surveys", *OECD Economic Policy Papers*, No. 28, OECD Publishing, Paris, https://dx.doi.org/10.1787/89cd0319-en. [28]

Gemmell, N., R. Kneller and I. Sanz (2013), "Fiscal decentralization and economic growth: spending versus revenue decentralization", *Economic Inquiry*, Vol. 51/4, pp. 1915–1931. [20]

Hagemann, R. (2018), "Tax Policies for Inclusive Growth: Prescription versus Practice", *OECD Economic Policy Papers*, No. 24. [30]

Kim, J. (2018), "Fiscal decentralisation and inclusive growth: An overview", in *Fiscal Decentralisation and Inclusive Growth*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264302488-3-en. [9]

Lastra-Anadón, C. and S. Mukherjee (2019), "Cross-country evidence on the impact of decentralisation and school autonomy on educational performance", *OECD Working Papers on Fiscal Federalism*, No. 26. [27]

Martinez-Vazquez, J., S. Lago-Peñas and A. Sacchi (2017), "The Impact of Fiscal Decentralization: A Survey", *Journal of Economic Surveys*, Vol. 31/4, pp. 1095-1129. [11]

Murray, J., P. Rentell and D. Geere (2008), "Procurement as a shared service in English local government", *International Journal of Public Sector Management*, Vol. 21/5, pp. 540-555. [46]

Oates, W. (1972), *Fiscal Federalism*, Edward Elgar Publishing. [6]

Oates, W. and R. Schwab (1988), "Economic competition among jurisdictions: efficiency enhancing or distortion inducing?", *Journal of Public Economics*, Vol. 35/3, pp. 333-354. [33]

OECD (2021), *Making Property Tax Reform Happen in China: A Review of Property Tax Design and Reform Experiences in OECD Countries*, OECD Fiscal Federalism Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/bd0fbae3-en. [51]

OECD (2019), *Making Decentralisation Work: A Handbook for Policy-Makers*, OECD Multi-level Governance Studies, OECD Publishing, https://dx.doi.org/10.1787/g2g9faa7-en. [12]

OECD (2018), *Monitoring Report: Implementation of the Recommendation of the Council on Effective Public Investment across Levels of Government*, OECD Publishing. [40]

OECD (2015), *Government at a Glance 2015*, OECD Publishing, Paris, https://doi.org/10.1787/gov_glance-2015-en. [45]

OECD (2014), *Recommendation of the Council on Effective Public Investment Across Levels of Government*, OECD/LEGAL/0402, OECD, Paris. [43]

OECD (2013), *Fiscal Federalism 2014: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264204577-en. [5]

OECD (2012), "Denmark: The Local Government Reform", in *Reforming Fiscal Federalism and Local Government: Beyond the Zero-Sum Game*, OECD Publishing, Paris. [38]

OECD (2011), *OECD Economic Surveys: Belgium 2011*, OECD Publishing. [36]

OECD (2010), *OECD Economic Surveys: Spain 2010*, OECD Publishing. [50]

OECD (2006), *OECD Economic Surveys: Australia 2006*, OECD Publishing. [29]

OECD/KIPF (2016), *Fiscal Federalism 2016: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264254053-en. [4]

OECD-CoR (2016), *Results of the survey on regional and local obstacles to investments*, Committee of the Regions, European Commission. [41]

Phillips, L. (2018), "Improving the Performance of Sub-national Governments through Benchmarking and Performance Reporting", *OECD Working Papers on Fiscal Federalism*, No. 22, OECD Publishing, Paris, https://dx.doi.org/10.1787/ffff92c6-en. [44]

Qiao, B., J. Martinez-Vazquez and Y. Xu (2008), "The tradeoff between growth and equity in decentralization policy: China's experience", *Journal of Devel. Econ.*, Vol. 86/1, pp. 112-128. [15]

Sow, M. and I. Razafimahefa (2018), "Fiscal decentralisation and the efficiency of public service delivery", in *Fiscal Decentralisation and Inclusive Growth*, OECD Publishing, Paris. [25]

Stossberg, S. and H. Blöchliger (2017), "Fiscal Decentralisation and Income Inequality: Empirical Evidence from OECD Countries", *Journal of Economics and Statistics (Jahrbuecher fuer Nationaloekonomie und Statistik)*, Vol. 237/3, pp. 225-273. [23]

Ter-Minassian, T. (2021), "Challenges of subnational capacity development", in *Local Public Finance and Capacity Building in Asia: Issues and Challenges*, OECD Publishing, Paris, https://dx.doi.org/10.1787/c02dc03d-en. [48]

Ter-Minassian, T. and L. de Mello (2016), "Intergovernmental Fiscal Cooperation", *Inter-american Development Bank Technical Notes*, No. IDB-TN-1048. [39]

Tiebout, C. (1956), "A pure theory of local expenditures.", *The Journal of Political Economy*, Vol. 64, pp. 416–424. [18]

Xie, D., H. Zou and H. Davoodi (1999), "Fiscal Decentralization and Economic Growth in the United States", *Journal of Urban Economics*, Vol. 45/2, pp. 228-239. [14]

Zhang, T. and H. Zou (1998), "Fiscal decentralization, public spending, and economic growth in China", *Journal of Public Economics*, Vol. 67/2, pp. 221-240. [16]

Notes

[1] The OECD Fiscal Decentralisation database is available at http://oe.cd/FDdb.

[2] Policy options for the reform of property taxes and administration were also distilled in a recent synthesis of OECD country property tax reforms by the Network on Fiscal Relations (OECD, 2021[51]).

[3] A destination-based tax implies that the final good is taxed where it is consumed, while an origin-based tax implies that it is taxed where it originates.

2 Evaluating fiscal equalisation: Finding the right balance

Fiscal equalisation refers to the transfer of financial resources to and between subnational governments with the aim of mitigating regional differences in fiscal capacity and expenditure needs. However, the determination of fiscal capacity and expenditure needs is not a straightforward task. OECD countries use widely varying mechanism design approaches in their equalisation systems. This chapter compares national approaches, covering the three main modes of fiscal equalisation: pure revenue equalisation, revenue/cost equalisation and gap-filling equalisation, describing the distinct impacts of each approach on subnational revenue disparities. A clear inverse relationship emerges between the size of the cost-equalising component within a system and the percentage change in subnational *per capita* revenue disparities after equalising transfers are applied, although no significant relationship emerges between equalisation and regional convergence.

Introduction

Fiscal equalisation refers to the transfer of financial resources to and between sub-central governments (SCGs) with the aim of mitigating regional differences in fiscal capacity and expenditure needs. Fiscal equalisation systems redistribute funds from wealthier governments to governments that face higher per capita costs or lower per capita revenue capacities. Such transfers may take place vertically, from higher levels of governments to lower levels of government, or horizontally, within the same level of government. Distinct fiscal equalisation arrangements first emerged during the 1940s and 1950s in a number of federal countries. Today most OECD countries have redistributive programmes to reduce fiscal disparities (OECD, 2013[1]).

Sometimes described as an enabler of fiscal decentralisation, equalisation allows SCGs to provide their residents with similar levels of public services at similar levels of taxation by evening fiscal capacity across SCGs (OECD/KIPF, 2016[2]). Moreover, equalising transfers are typically, though not always, non-earmarked. This increases the relative fiscal autonomy of jurisdictions that would otherwise have fewer resources.

The central challenges of fiscal equalisation

Assuming that some degree of decentralisation is welfare-enhancing, equalisation systems that correct for structural differences between jurisdictions can counteract the less desirable effects of competition between SCGs that would distort firm and household decisions (Boadway, 2003[3]; Boadway and Shah, 2009[4]; Kim and Dougherty, 2018[5]). This theoretical formulation may make the task of an equalisation system appear straightforward: to reduce disparities arising from structural differences between regions. However, in practice, significant ambiguity derives from two principal sources: first, the interaction between equalisation systems and the incentives faced by policymakers and second, the problem of accurately capturing “structural differences” between regions.

New insights from the 2019 Questionnaire on Fiscal Equalisation

Based on the 2019 fiscal equalisation questionnaire (Dougherty and Forman, 2021[6]), this chapter presents a cross-country analysis of the mechanisms underpinning fiscal equalisation, their impacts on fiscal redistribution and macroeconomic outcomes, how equalisation systems can be evaluated and reformed and the associated policy implications. New data collected in the 2019 questionnaire on the formulas and factors that determine equalising transfers offer important insights into how countries design equalisation systems and approach the myriad challenges they pose.

Key observations from the 2019 survey results include:

- Most equalisation systems *combine* elements of more than one of the three principal modalities of fiscal equalisation: cost, revenue and gap-filling. These are summarised in Figure 2.1.
- Overall, equalisation systems have a range of impacts on inter-jurisdictional revenue inequality. Systems that have a robust cost-equalising component tend not to realise as great a reduction in inter-jurisdictional revenue inequality. In these cases, the Gini coefficient of per capita SCG revenues may remain the same or even increase after equalising transfers.
- Among equalisation systems that reduce revenue inequality, the Gini coefficient declines by 8 percentage points on average after equalisation. This corresponds to an average reduction in fiscal disparities by nearly one-third after equalisation.
- There is little observable cross-sectional evidence to suggest the extent of fiscal equalisation correlates with an observed reduction in regional convergence.

- Mechanism design approaches to fiscal equalisation centre on reducing the incentive to suppress (or inflate) SCG revenues (or costs). Such approaches often entail the use of a representative tax system or standardised costs to compute equalisation entitlements. In the case of revenue equalisation, certain revenues may be entirely excluded from the assessment of SCG fiscal capacity in order to promote the development of own-source revenues.
- Assessing the impact of cost equalisation presents unique challenges because its effects cannot be captured by straightforward measures of revenue disparity like the Gini coefficient. While cost equalisation aims to facilitate equitable access to public services across SCGs, this outcome is rarely assessed in the context of reviews of equalisation systems. Accordingly, there may be an opportunity to more closely connect cost equalisation to subnational performance benchmarking.
- COVID-19 introduces a special set of challenges for equalisation systems which are not well adapted to responding to emerging, short-term crises (see Box 2.2). Many countries anticipate that despite the asymmetric impacts of COVID-19, equalisation payments will fall because they are tied to elastic revenue streams. In some cases, the asymmetries introduced by the pandemic will not be reflected by equalisation payments for several years due to the use of lagged variables in the underlying formulae.

Guided by these insights, several good practices emerge which provide a framework for building, reforming or evaluating equalisation systems. These build on past policy messages from OECD research on fiscal equalisation that focused on the simplification of equalisation formulas to reduce manipulation by subnational governments, the use of representative tax systems (RTS), the separation of equalisation from other grants and regular monitoring (Blöchliger and Charbit, 2008[7]; OECD, 2013[1]; OECD/KIPF, 2016[2]).

This chapter is organised as follows: first, the principal modalities of fiscal equalisation are defined and their characteristics are summarised on a cross-country basis (see Table 2.1). Second, the impacts of equalisation on revenue and cost disparities are assessed (see Table 2.3) with a special focus on cost equalisation. Third, the mechanism design approaches to policy challenges in equalisation are discussed. Fourth, approaches to the assessment and reform of equalisation systems are analysed (see Table 2.6), including with reference to OECD economic surveys (see Table 2.5). Conclusions and policy implications are summarised in Box 2.1.

Box 2.1. Good practices in fiscal equalisation

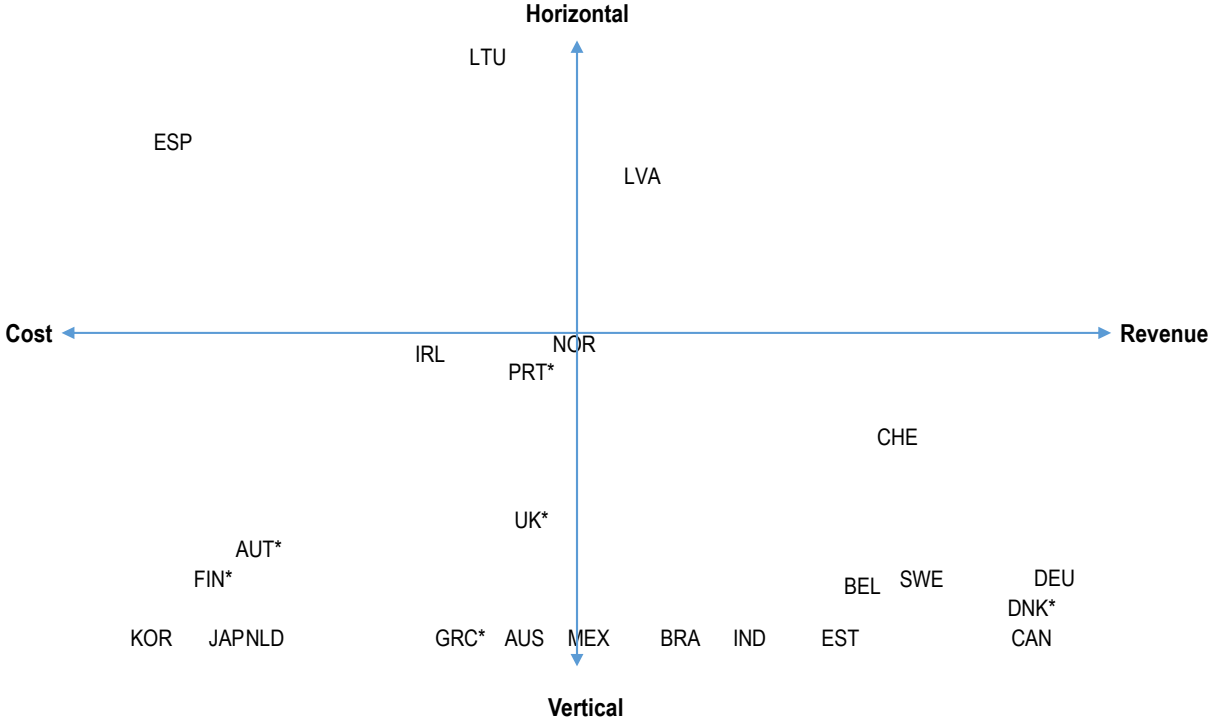
Selected good practices include:

- **Regular reviews by an arm-length body, with input from SCGs.** Arms-length bodies devoted to monitoring fiscal equalisation often resemble independent fiscal institutions (IFIs) as described in Dougherty, Renda and von Trapp (2021[8]), with the added function of stakeholder consultation. Representative examples include Australia's Commonwealth Grants Commission and India's Finance Commission.
- **Implementing a representative tax system (RTS) to avoid linking taxation choices to equalisation receipts.** An RTS is a theoretical tax rate or set of rates which allows for the transparent computation of a hypothetic per capita revenue level for a given SCG. The RTS is feature common to many equalisation systems and is frequently linked to the average tax rate across all SGCs, as is the case in Australia, Canada and Germany for example.
- **Clearly linking equalisation entitlements to SCG per capita income, rather than factors that can be directly influenced by policy choices.** Key to the mechanism design of fiscal equalisation systems is the selection of indicators that depend on structural factors rather than policy choices. Sweden's equalisation system provides a clear example of this practise, relying

on per capita income as the primary measure of revenue potential and objective measures of cost such as demographic profiles.

- **Using inter-governmental transfers outside of the equalisation system to achieve well-defined policy goals, while equalising transfers remain non-earmarked.** Where indicators may struggle to capture certain cost variations, or fundamental differences between regions make them incomparable, other transfers may be necessary to supplement equalisation. For example, in Australia, the Commonwealth Grants Commission noted that the challenges faced by indigenous communities could not be adequately addressed by equalisation alone.
- **Rewarding SCGs for increasing their own revenues while maintaining redistributive systems.** Systems of imperfect equalisation are commonplace, allowing jurisdictions to benefit from increasing their own-source revenues, such as in Ireland. Countries with horizontal equalisation systems, such as Sweden and Germany, allow SCGs with above-average own-source revenue to retain some of their additional tax income according to a progressive schedule.
- **Assessing cost equalisation may be possible via subnational performance benchmarking.** Measuring whether cost equalisation's goal of equitable access to public services is being achieved remains challenging. Italy's sophisticated approach to measurement of public service outcomes may allow for the effect of cost equalisation to be observed. Connecting subnational performance benchmarking to reviews of equalisation may enable richer cross-country comparisons of equalisation.

Figure 2.1. Visualisation of approaches to fiscal equalisation



Notes: The horizontal axis depicts revenue equalising payments as a percentage of total equalising transfers. The vertical axis depicts horizontal transfers paid by SCGs as a percentage of total equalising transfers. Exact placement is approximate, based on system design. Asterisks indicate placement from OECD (2013[1]).
Source: OECD Fiscal Equalisation Questionnaire 2019.

Equalisation modalities

Identifying equalisation modalities

There are three principal modalities of fiscal equalisation: cost, revenue and gap-filling, with most equalisation systems combining elements of each. Selected equalisation systems are classified according to these modalities in Table 2.1. Cost and revenue equalisation systems aim to compensate for differences in per capita costs or revenues across SCGs. Gap-filling equalisation systems aim to bridge the gap between per capita costs and revenues for each SCG, rather than consider either side of the ledger in isolation. Previous OECD research has identified the cost and revenue equalising modalities (OECD, 2013[1]; Blöchliger and Charbit, 2008[7]). The present paper augments this framework with the gap-filling classification.

The source of the funds for equalising transfers is typically described as either vertical (from the centre to SCGs) or horizontal (from wealthier SCGs to poorer SCGs) (OECD, 2013[1]). Few equalisation systems are fully horizontal – meaning that they are entirely funded by transfers of own-source revenues between SGCs (one notable example of full horizontality is Lithuania) (Figure 2.1). Some systems incorporate sizeable horizontal components (e.g. Germany, Sweden, Switzerland, and Ireland), but the majority are entirely vertical. In turn, vertical equalisation systems are often funded by fixed shares of central government revenue streams (e.g. Japan and Korea). In other cases, funding comes from a fixed envelope of central government revenues which grows in line with macro indicators (e.g. GDP in Canada).

Table 2.1. Principal characteristics of selected equalisation systems

Country	Overall classification	Size	Horizontality	Complexity	Equalisation rate
		Equalising transfers % government expenditure	*Horizontal transfers % total equalising transfers*	*Number of equalising transfers*	*Extent to which equalisation fills gap for SCGs below mean fiscal capacity*[1]
Australia	Gap-filling	11.2%	n.a.	1 (GST)	Fiscal relativities fully equalised
Japan	Gap-filling	8.8%	n.a.	3	99% of standardised fiscal need, in most cases
Italy	Gap-filling	0.7%	n.a.	1	60% in 2021, increasing by 5% every year to reach 100% in 2029.
Brazil	Revenue/Cost	2.7%	n.a.	3	
Ireland	Gap-filling	1.7%	48%	2	Topped-up to baseline funding requirement
India	Revenue[2]	52.4%	n.a.	2 (Tax transfer from centre, grants in aid from centre)	n.a.
Germany[3]	Revenue	8.7%	9%	4	60-70%. See Table 2.2
Estonia	Revenue/Cost	1.3%	n.a	2	90%
Lithuania	Revenue/Cost	2.2%	100%	2 part transfer (revenue and cost component)	90%
Canada	Revenue	2.1%	n.a.	1	Determined by the size of the fixed funding envelope for the programme, which is approximately set to raise provinces with below-average fiscal capacity to the average fiscal capacity.[4]
Belgium	Revenue (National solidarity mechanism)	0.6%[5]	1 special purpose grant to the Brussels Capital Region is funded horizontally[6].	1 + several special purpose grants for the Brussels Capital Region	80%

Country	Overall classification	Size	Horizontality	Complexity	Equalisation rate
Norway	Revenue/Cost	1.3%	50%	4	Municipalities[7]: 60% +an additional 35% for municipalities with per capita revenues blow 90% of mean Counties[8]: 87.5%
Spain	Gap-filling	4.0%	27%	4	n.a.
Sweden	Revenue/Cost	4.4%	10% municipalities, 4% counties	2 for municipalities (cost and revenue), 2 for counties (cost and revenue)	For revenue component: 95% for municipalities, 90% for county councils.
Switzerland	Revenue/Cost	2.0%	34%	3	86.5%

Notes:
1. Alternatively, gap between SCG fiscal capacity and expenditure for some cost-equalising systems.
2. Cost factors played a comparatively smaller role than income distance in determining equalising transfers during the 14th Fiscal Commission. Income distance is considered a revenue proxy.
3. The vast majority of German equalisation transfers are revenue equalising. The factors enumerated within the questionnaire to determine transfer entitlements concern revenue.
4. A fiscal capacity cap ensures that that the partial inclusion of natural resource revenues does not lead to inequitable outcomes, such as raising the fiscal capacity of a province receiving equalising transfers above that of a non-receiving province. When more than 50% of the Canadian population resides in provinces with fiscal capacity lower than the equalisation standard, the fiscal capacity cap is set at the average fiscal capacity of equalisation-receiving provinces.
5. Regions only.
6. This special purpose grant aims to compensate Brussels for commuters from other regions and is not considered a form of equalisation.
7 and 8. This refers to the revenue equalising component of system. The rate is symmetrical. Municipalities and counties above the mean contribute 60% and 87.5% of their surplus respectively to equalisation.
Source: OECD Fiscal Equalisation Questionnaire 2019.

Revenue equalisation

Revenue equalisation relies on measurements of real or potential per capita revenues (fiscal capacity) to determine equalising grants to jurisdictions. Typically, a representative tax system (RTS) based on cross-jurisdictional average tax rates is applied to an SCG's revenue base to determine its fiscal capacity. In Canada, an RTS encompassing five revenue categories is used to calculate the theoretical revenues that would be raised should a province apply, roughly, national average tax rates across the specified revenue categories. A system of vertical fiscal equalisation then provides transfers from the federal government to provinces whose fiscal capacity falls below the average fiscal capacity of all provinces under the RTS. Australia uses a similar approach to assess revenues but complements the system of revenue equalisation with a comprehensive assessment of costs, based on standardised expenses. In this sense, it is essentially a gap-filling system. Crucially, Australia's equalisation system is entirely financed by GST revenues, which are earmarked for this purpose (Coppel, 2018[9]).

Some revenue equalisation systems, such as Germany's, are notable for their horizontal element: the transfer of revenues from wealthier to poorer SCGs within the same level of government. A defining feature of horizontal revenue equalisation is skimming, which is the appropriation of SCG own-source revenues above a certain threshold for redistribution via the equalisation system. In effect, this is a taxed faced by governments on their own-source revenues (See Table 2.2 for an example of the German case).

Table 2.2. Fiscal equalisation rates in Germany

As % of the average financial capacity per inhabitant

Financial capacity per inhabitant before financial equalisation among the *Länder*	Financial capacity per inhabitant after financial equalisation among the *Länder*	Financial capacity per inhabitant after financial equalisation among the *Länder*, also including general supplementary federal grants	Equalisation rate: portion of difference from average financial capacity per inhabitant compensated
70	91	97.5	70%
80	93.5	98	67.5%
90	96	98.5	60%
100	100		n.a.
110	104		60%
120	106.5		62.5%
130	109		70%

Note: In Germany, *Länder* with above-average fiscal capacity (essentially per capita revenue receipts) face a "linear progressive skimming-off schedule" which partially reallocates a portion of their revenue to *Länder* with below-average fiscal capacity. Likewise, the *Länder* with below-average fiscal capacity face a similarly progressive schedule prescribing the rate at which their revenues are topped-up. The rate of equalisation declines as fiscal capacity rises towards the average.
Source: German Federal Ministry of Finance (2018[10]).

Cost equalisation

Cost equalisation systems aim to compensate SCGs with higher per capita costs relative to other SCGs, such that they do not face an undue burden. Typically, per capita costs are measured using average or standardised costs, based on budget categories, rather than the SCG's actual expenditure. Sometimes, indicators such as geography (e.g. forest cover), poverty rates or surface area are directly integrated into cost equalisation formulae. Such formulae are sometimes highly complex, capturing a wide range of cost factors. For instance, the cost-equalising component of Italy's equalisation system measures thirteen different factors to determine the standardised costs of eight essential functions of municipal government (SOSE, 2018[11]). Many equalisation systems integrate both cost and revenue equalising components.

Australia[1] and Sweden provide examples of comprehensive cost equalisation systems. In Australia, dozens of factors covering all aspects of state expenditure as well as the underlying drivers of cost disparity enter into the equalisation formula. This allows the equalisation system to capture much of the variation in per capita funding requirements. In addition, it helps to enhance the policy neutrality of the equalisation system by employing cost variables which generally cannot be directly affected by policy choices. Similarly, the Swedish cost equalisation systems aim to assess structural differences in the per capita costs faced by SCGs through the use of sectoral expenditure models, each relying on hundreds of variables.

Gap-filling

Gap-filling approaches to equalisation combine cost and revenue equalisation into a single transfer designed to fill the gap between assessed costs and assessed revenues. The distribution of Japan's local allocation tax exemplifies this approach. An assessment of each municipality's financial need is made, along with an assessment of its fiscal capacity. The local allocation tax is then used to fill the gap between these two quantities. Similarly, Korea's general grant to municipalities aims to fill the gap between standardised financial needs and standardised revenues. Importantly, the system relies on standardised rather than actual values of revenue and cost to avoid perverse incentives.

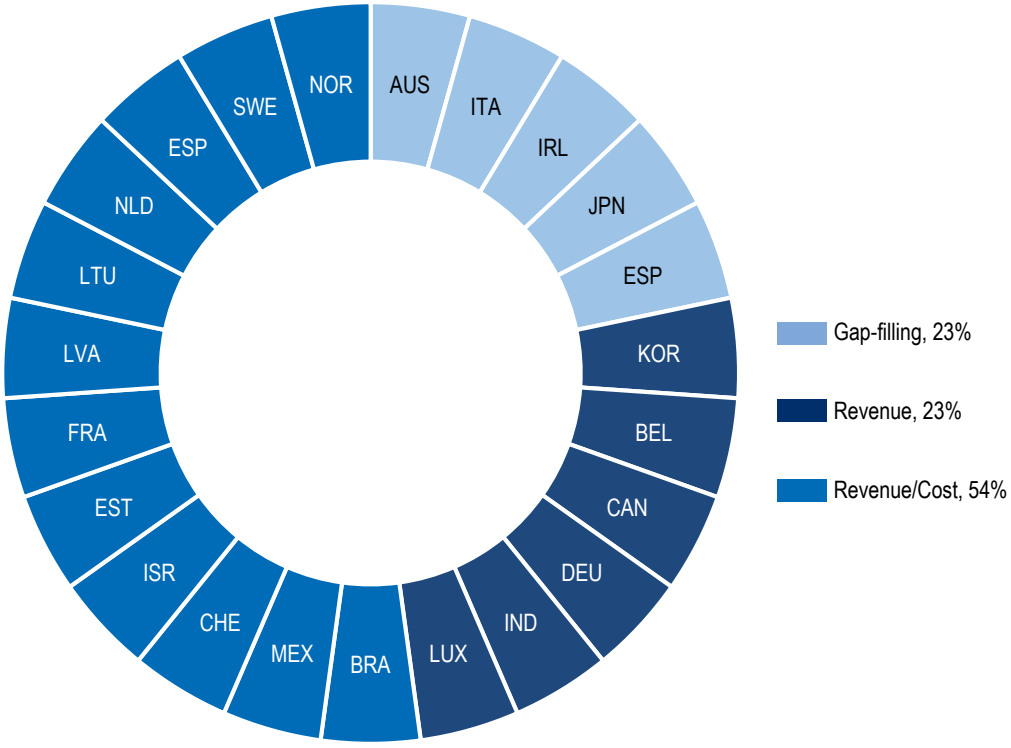
An interesting feature of gap-filling systems is that they generally increase the inequality of per capita revenue after the nominally equalising transfers are applied. Because jurisdictions with higher per capita costs receive higher per capita payments, SCGs that initially have above-average per capita own-source revenues may see even higher post-transfer per capita revenues if per capita costs are uncorrelated or positively correlated with per capita revenues. The rise in post-equalisation revenue inequality is also driven by the fact that among gap-filling systems, the majority of the equalising transfer compensates for cost rather than revenue disparities (see Figure 2.6).

In practice, the cost and revenue equalisation modalities are often combined

Roughly half of the equalisation systems surveyed combine cost and revenue equalising components, with distinct transfers for each purpose (Figure 2.2). The other half are split near-evenly between gap-filling systems and those that are exclusively revenue equalising, without significant cost equalising components. Importantly, no system is exclusively cost equalising, free of any measure of fiscal capacity.

Figure 2.2. Equalisation modalities in practice

Equalisation modalities as a share of respondents to OECD 2019 Fiscal Equalisation Questionnaire



Note: Belgium's classification is based on the National Solidarity Mechanism.
Source: OECD Fiscal Equalisation Questionnaire 2019.

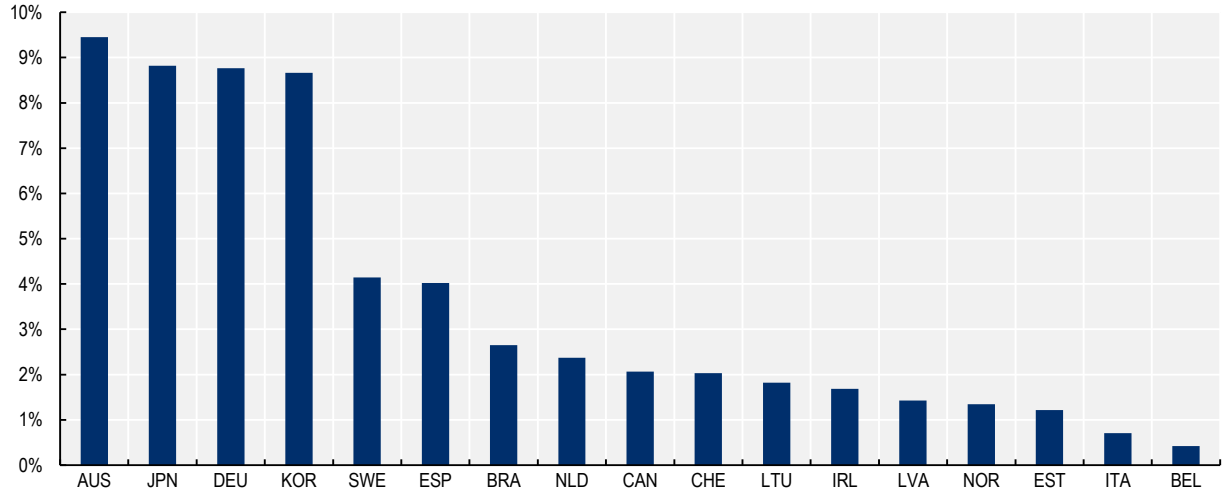
The impact of fiscal equalisation

The effect of fiscal equalisation on revenue disparities

The effect of equalisation on revenue disparities ranges widely

Figure 2.3 illustrates the scale of equalising transfers as a percentage of total government expenditure (all levels) across sixteen OECD economies. Among the countries featured, equalising transfers average 3.6% of government expenditure, with Australia having the largest transfers as a share of total government expenditure (9.9%), and Belgium having the smallest (0.6%).[2]

Figure 2.3. Equalising transfers as a percentage of total government expenditure



Note: Data is from 2017 or latest year available. Only systems of explicit fiscal equalisation are included, other systems of inter-governmental transfers which may include equalising criteria are not included in this figure. The figure for Belgium is based on revenue equalising transfers to regions only.
Source: OECD Fiscal Equalisation Questionnaire 2019.

StatLink https://stat.link/nl74d1

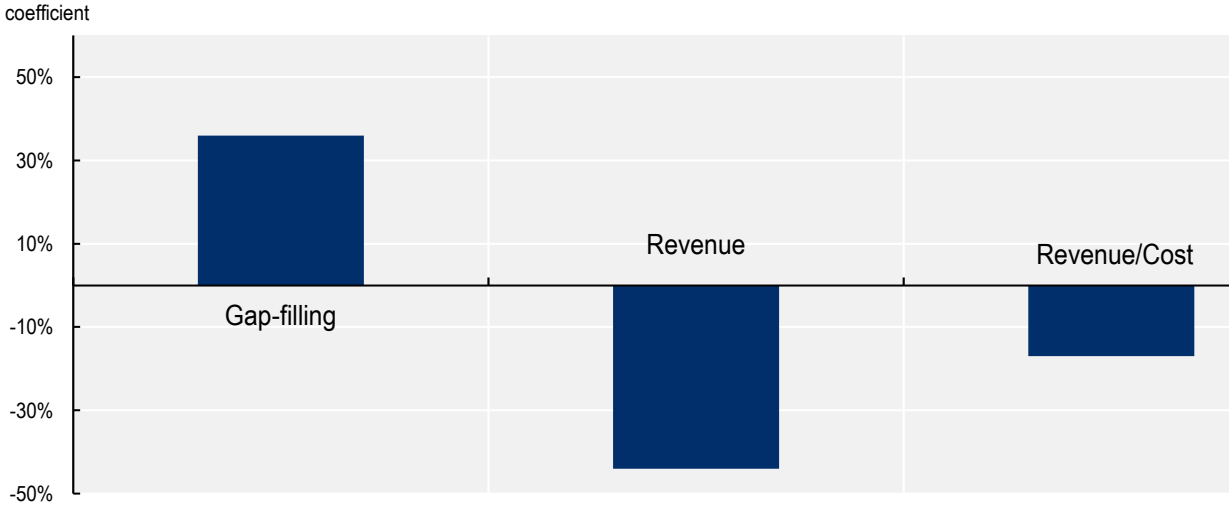
Table 2.3 illustrates the change in the Gini coefficient of per-capita revenues of SCGs before and after equalising transfers are applied. While for a number of OECD and emerging economies, the reduction in the Gini is substantial, for others it is not:

- For some countries, the reduction in the Gini coefficient is considerable (e.g. Canada, Germany).
- For several countries, the reduction in the Gini coefficient is quite modest (e.g. Brazil, India).
- In a few cases, equalising transfers have almost no impact on the Gini coefficient (e.g. Mexico, Italy).
- In several cases, the Gini coefficient rises (e.g. Japan, Korea).

…And depends heavily on the equalisation modality

Figure 2.4 illustrates the modal variation in the effect of equalisation on disparities in inter-regional per capita revenues. Purely revenue-equalising systems demonstrate a 44% drop in the Gini coefficient on average, corresponding to a 14 percentage point reduction. Revenue/cost systems – that provide separate transfers to equalise both revenues and costs – demonstrate an average 17% drop in the Gini coefficient or a three percentage point reduction. Conversely, gap-filling systems illustrate an average rise of 36% in the Gini coefficient or a three percentage point increase.

Figure 2.4. Average change in Gini coefficient before and after equalisation by modality



Source: Calculations based on 2019 OECD Fiscal Equalisation Questionnaire.

StatLink https://stat.link/x5gsem

Table 2.3. Effect of equalising transfers on the per capita revenue distribution

Inter-jurisdictional Gini coefficients of per capita revenue

	Before equalisation			After equalisation			Effect (2016-18)			
Countries	**2005**	**2012**	**2016-18***	**2005**	**2012**	**2016-18***	**Gini change (-)**	**Gini % change (-)**	**Gini change (+)**	**Gini % change (+)**
Federal / Regional										
Australia	0.05	0.07	0.12 +	0	0	0/0.14 +			0.02	17%
Austria				0.02	0.05					
Belgium			0.10			0.10	0.00	0%		
Brazil			0.21			0.18	0.03	14%		
Canada	0.10	0.11	0.08	0.07	0.08	0.04	0.04	50%		
China	0.33	0.31		0.25	0.18					
Germany	0.06	0.06	0.07	0.02	0.02	0.02	0.05	71%		
India	0.46	0.38	0.34	0.37	0.32	0.29	0.05	15%		
Italy	0.21	0.19	0.14	0.10	0.04	0.13	0.01	7%		
Mexico			0.31			0.31	0.00	0%		
Spain	0.15	0.13		0.04	0.05					
Switzerland	0.15	0.17	0.21	0.11	0.11	0.20	0.01	5%		

	Before equalisation			After equalisation			Effect (2016-18)			
Countries	**2005**	**2012**	**2016-18***	**2005**	**2012**	**2016-18***	**Gini change (-)**	**Gini % change (-)**	**Gini change (+)**	**Gini % change (+)**
Unitary										
Chile		0.49			0.14					
Denmark	0.08	0.06		0.04	0.03					
Estonia			0.12			0.09	0.03	25%		
Finland	0.11	0.12		0.03	0.05					
France* **			0.20			0.19	0.01	7%		
Ireland			0.18			0.21			0.03	16%
Israel			0.33			0.22	0.11	34%		
Japan	0.20		0.07/0.19**			0.15/0**			0.08	114%
Korea			0.13			0.18			0.05	38%
Latvia			0.16			0.07	0.09	56%		
Lithuania			0.20			0.10	0.10	50%		
Luxembourg			0.68			0.10	0.58	85%		
Netherlands			0.23			0.35/0.22 §			0.12	52%
Sweden-Municipalities	0.06	0.07	0.06	0.01	0.01	0.04	0.02	33%		
Turkey	0.22			0.06						
						Mean:	0.08	30%	0.06	48%
						Median:	0.03	25%	0.05	38%
						Count:	15	15	5	5
						Total count:	20	20	20	20

Note: This table represents only the change in per capita revenues before and after transfers.
*Most recent year available is 2016-17 for Federal countries, except Mexico, and is 2018-19 for unitary countries except Israel.
**Gini coefficient of revenue/cost ratios. +For Australia, the Gini coefficient calculated on the basis of fiscal relativities after equalisation equals zero. The Gini coefficient calculated on the basis of post-equalisation revenue receipts illustrates an increase relative to pre-equalisation receipts due to the gap-filling nature of the system. §For the Netherlands, the effect of revenue equalising grants only is included in calculating the post-equalisation Gini.
***For France, Gini coefficients are computed based on the disparity of mean tax revenues received by communes within 11 tranches clustered by population size.
Source: OECD Fiscal Equalisation Questionnaire 2019 and 2013.

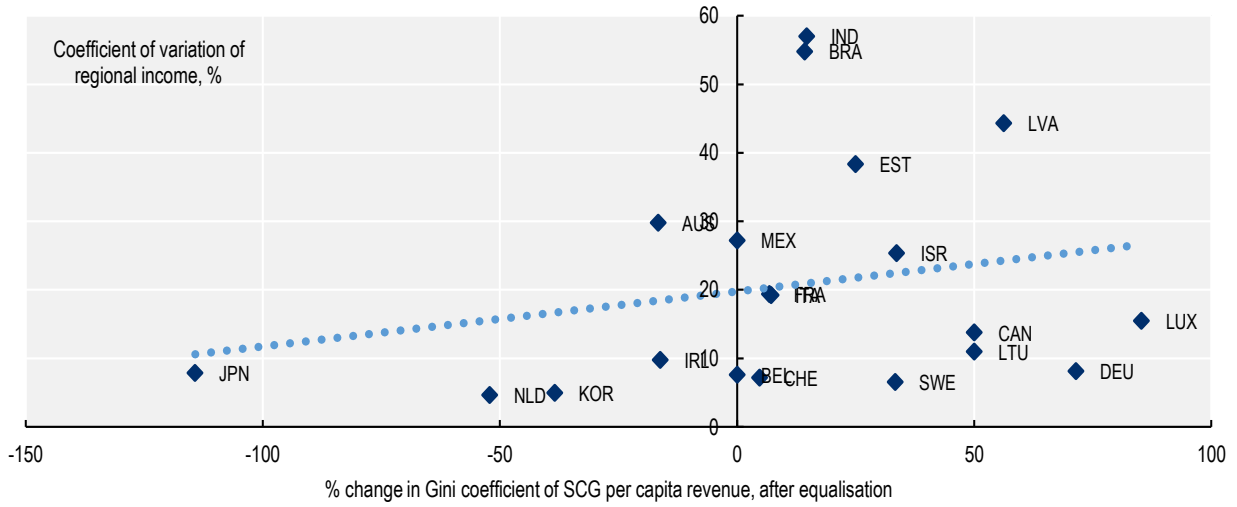
Equalisation systems cannot be measured in terms of their effect on revenue disparities alone

Such outcomes suggest that the impact of fiscal equalisation cannot be measured in terms of the effect on revenue distribution alone. In cases where countries see a rise in the post-equalisation Gini coefficient (e.g. Australia, Japan, Korea), the equalising effect of the system can only be captured by examining measures that relate fiscal capacity to expenses, like Australia's GST relativities or Japan's fiscal capacity index. Accordingly, the appropriate metric for the effect of a given equalisation system must be related to the design of the system itself. This is particularly true where transfers are driven by variation in cost to a higher degree than variation in per capita revenues such that measures of revenue disparity fail to capture the equalising effect.

The correlation between the extent of revenue equalisation and regional income disparities appears limited at the cross-country level, with univariate regression analysis finding no significant relationship (Figure 2.5). Though past OECD work has suggested that equalisation may reduce incentive for poor regions to catch up or for households and firms to migrate to more prosperous jurisdictions (OECD, 2006[12]; OECD, 2013[1]), there are important examples of countries that illustrate high levels of regional convergence in the presence of robust fiscal equalisation. These include Canada, Germany and Lithuania.

Figure 2.5. Regional convergence vs extent of fiscal equalisation

There is no clear relationship between regional convergence and the extent of fiscal equalisation at the cross-country level



Note: This chart illustrates the trend line resulting from a univariate regression of the percentage change in inter-jurisdictional Gini coefficient of revenue per capita after equalisation to the coefficient of variation of regional income per capita. The linear coefficient is not significant (P-value = 0.35) The dispersion of individual countries around the trend line (blue dots) indicates the presence of both high and low regional income disparities at varying levels of fiscal equalisation. Cross-sectional data obtained for same year as indicated by country in Table 2.3, roughly 2016-18.
Source: Calculations based on 2019 OECD Fiscal Equalisation Questionnaire.

StatLink https://stat.link/7c9lkn

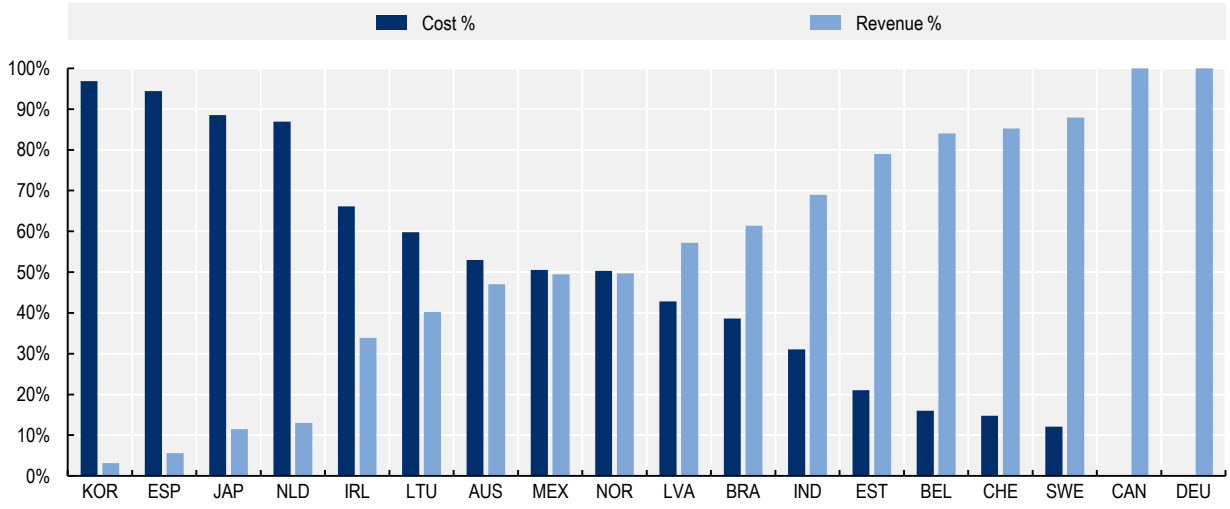
Examining the effects of cost equalisation

The challenge of cost equalisation

Where an equalisation system is purely revenue-equalising, the task of assessing regional disparities is made relatively straightforward: it is fairly easy to quantify the change in disparity of subnational per capita revenues before and after the addition of equalising transfers (Table 2.3). In contrast, the effect of cost equalisation systems cannot be evaluated via a metric that simply measures the change in revenue disparities. Cost equalisation systems aim to compensate regions for elevated costs and by their nature, introduce a high degree of complexity and special set of challenges for the policy maker (Expert Panel on Equalization and Territorial Formula Financing, 2006[13]).

Across the OECD, the extent of cost equalisation varies widely (Figure 2.6), from systems that exclude costs entirely (e.g. Canada) to systems dominated by compensation for cost disparities (e.g. Korea). Notably, among gap-filling systems (e.g. Korea, Japan, Ireland and Australia) the imputed[3] cost equalising component of the transfer represents the majority of total spending on equalisation. This suggests that the cost disparities faced by SCGs in these countries exceed their revenue disparities.

Figure 2.6. Expenditure on cost and revenue equalisation as a percentage of total expenditure on equalisation



Note: This figure depicts the relative shares of cost and revenue equalisation as a percentage of total expenditure on equalisation in 2018 or for the latest year available.
Source: Calculations based on 2019 OECD Fiscal Equalisation Questionnaire.

StatLink https://stat.link/vf3gwo

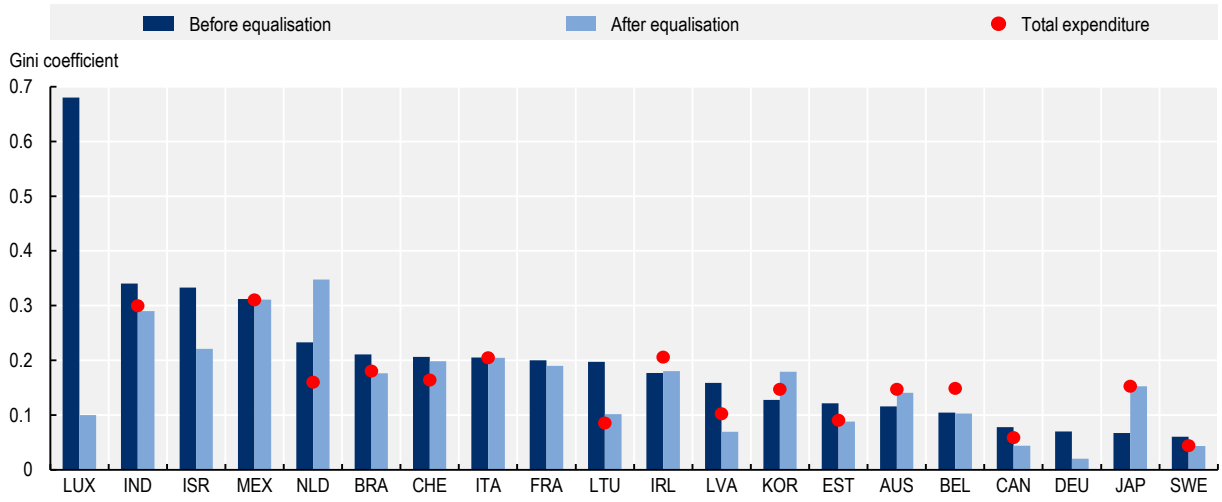
Equalisation systems do not always reduce revenue disparities and when they do, other transfers may counteract their effect

Figure 2.7 depicts countries' inter-regional per capita revenue disparities before and after equalisation, as well as the inter-regional disparity of per capita expenditure after all transfers. This reveals the central challenge of observing the effect of equalisation systems. In thirteen cases (Belgium, Brazil, Canada, Estonia, France, Germany, India, Israel, Latvia, Lithuania, Luxembourg, Switzerland, and Sweden), equalising transfers reduce per capita revenue disparities. However, in the remaining seven cases examined (Australia, Ireland, Italy, Japan, Korea, Mexico, and the Netherlands), equalising transfers either have no effect on per capita revenue disparities or increase them. In five cases (Australia, Japan, Korea, the Netherlands, and Ireland), revenue disparities rise after equalisation alone. In another seven cases, disparities in per capita final expenditure appear to partially (Brazil, Canada, Estonia, India, Latvia, Sweden) or fully (Belgium) counteract the reduction achieved by the equalisation system. Finally, in two cases (Ireland and Australia), per capita final expenditure illustrates even greater regional disparity than per capita revenue after equalisation, which was already higher than per capita revenue before equalisation.

Three observations are immediately apparent. First, equalisation systems do not always reduce disparities in per capita revenues. Second, other transfers from central government or deficit spending by subnational governments may counteract the effects of equalisation, leading to an increase in the disparity of per capita final expenditure relative to per capita revenue after equalising transfers. Naturally, such an outcome may be desirable where variation in certain expenditure needs is not captured within the scope of the equalisation system. Third, the opposing effects of different inter-governmental transfers raises important questions about the coherence of decentralisation. Coherence requires that decentralisation be balanced along the political, fiscal and administrative dimensions with each level of government illustrating broadly consistent levels of competence across policy sectors. Distinct transfers with contradictory effects on SCG fiscal capacity could therefore be indicative of incoherent fiscal relations.

Figure 2.7. Inter-regional Gini coefficient of per capita SCG revenue before and after equalisation

Per capita revenue disparities sometimes rise after equalisation



Note: 2018 or latest year available.
Source: Calculations based on 2019 OECD Fiscal Equalisation Questionnaire.

StatLink https://stat.link/gbx74h

…And this may be related to the disparity enhancing effect of cost equalisation

These observations can easily be related to the modalities of equalisation systems (see also Figure 2.4): with one exception (the Netherlands), all the systems that demonstrate a rise in post-equalisation inter-regional revenue disparity are of the gap-filling type. Notably, these systems are characterised by robust cost-equalisation components that seek to capture variations in SCGs' per capita expenditure needs via comprehensive measures. In contrast, systems that are exclusively or near-exclusively revenue equalising, such as Canada and Germany, demonstrate unambiguous declines in the post-equalisation inter-regional Gini coefficient.

Figure 2.8. Cost equalising transfers % total equalising transfers vs. % change in inter-regional Gini coefficient of per capita revenue post-equalisation

The scale of cost equalisation is positively associated with revenue disparities after equalisation

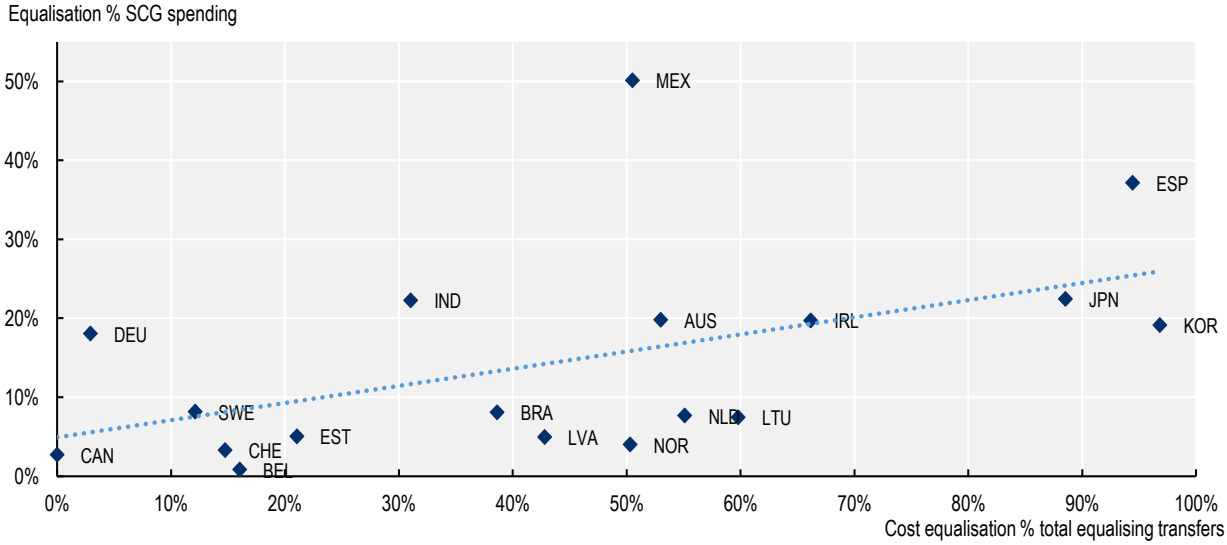
Note: +Norwegian municipal equalisation transfers, *Norwegian county equalisation transfers. Sweden's placement is based solely on municipal equalisation transfers.
Source: Calculations based on 2019 OECD Fiscal Equalisation Questionnaire.

StatLink https://stat.link/ae2gui

Figure 2.8 suggests that the intended effect of cost equalisation systems cannot be observed via a measure of inter-regional revenue disparity. Indeed, the nature of cost equalisation is fundamentally different from that of revenue equalisation, which may necessitate a different approach to measuring its effect. Moreover, the importance of defining a suitable measure to quantify the effects of cost equalisation is reinforced by the fact that cost equalisation may generally be positively associated with larger equalisation systems (Figure 2.9).

Figure 2.9. Cost equalisation as a percentage of equalising transfers vs equalising transfers as a percentage of subnational government spending

Increased cost equalisation is associated with a larger equalisation system



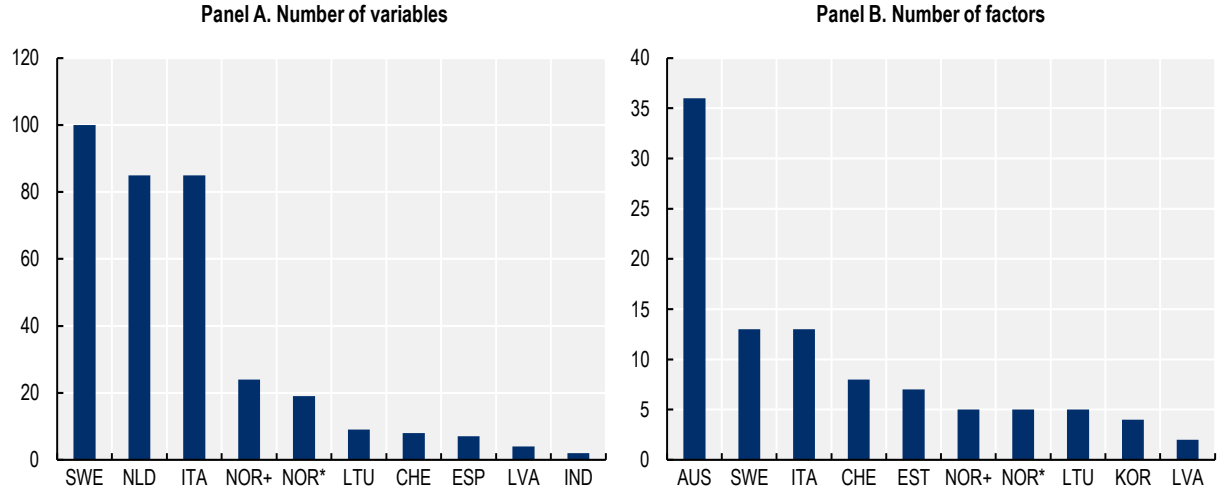
Source: Calculations based on 2019 OECD Fiscal Equalisation Questionnaire.

StatLink https://stat.link/5emd1a

Cost equalisation systems are underpinned by formulas which vary greatly in complexity

Cost equalisation systems range considerably in complexity, underpinned by formulas which aim to capture the drivers of cost disparities. Figure 2.10 depicts the number of variables and factors[4] that enter into these formulas as a broad indicator of their ability to capture the complexity of regional cost variation. It should be made clear, however, that this is not an indicator of their administrative complexity, which is influenced by many factors other than the structure of the formulas themselves.

Figure 2.10. Number of variables and factors entering into cost equalisation formulas by country



Note: A factor is a driver of cost disparity, such as a public service or a geographic feature, rather than a variable which enters directly into a formula. Factor are quantified by one or more variables. +Norwegian municipal equalisation transfers, *Norwegian county equalisation transfers.
Source: Calculations based on 2019 OECD Fiscal Equalisation Questionnaire.

StatLink https://stat.link/y6admx

Several country examples illustrate the diversity of approaches to cost equalisation. During the period of the 14th Finance Commission, India accounted for the per capita cost variation faced by states using two straightforward variables: forest cover and surface area.[5] This approach has the advantage of simplicity, which may allow for timely and accurate data inputs. However, such an approach may also exclude much of the variation driven by other factors. At the other end of the spectrum, Sweden uses a complex system comprised of 13 different cost models covering diverse functions of government. Australia uses similarly sophisticated methods. Likewise, Italy has adopted an intricate system of cost measurement that employs regression models to connect the extent of service provision with the service's standardised cost. Naturally, such approaches rely on the availability of extensive and high quality data. Latvia, Lithuania, Norway and Switzerland lie in the middle with simpler cost-equalisation frameworks based around a few key variables.

There is a need for indicators which adequately capture the effect of cost equalisation

Greater cost equalisation tends to be associated both with larger equalisation systems as a share of sub-central government spending (see Figure 2.9) as well as greater post-equalisation revenue disparities (see Figure 2.8). The immense complexity and large size of some cost-equalisation systems makes it imperative that their effects be measured on a comparable, cross-country basis. However, measures of the disparity of per capita revenue fail to capture the effects of cost equalisation. Cost equalisation is deeply connected to the broader objective of enabling equitable access to public services, beyond simply equalising SCG revenues. Accordingly, any assessment of its effect should take this into account. For example, recent OECD work has shown how public sector performance benchmarking can provide a yardstick for SCGs to evaluate their relative levels of service provision (Phillips, 2018[14]).

Mechanism design of fiscal equalisation systems

The factors and formulas used to determine the amount of the equalising transfer paid to a given jurisdiction lie at the heart of equalisation systems. Table 2.4 identifies the revenue and cost factors used to determine equalising transfers to SCGs. Some systems rely on a broad range of cost and revenue variables to determine the size of the transfer, while others consider only one principal input. Notably, while revenue factors typically relate to a few main revenue streams flowing to SCGs, cost factors can be numerous and diverse. Some countries (e.g. Australia, Italy, the Netherlands) consider dozens of cost factors based on demographic and geographic variables that are known to drive significant variation in SCG per capita expenses.

Representative tax systems

A reccurent concern is that fiscal equalisation systems that reward revenue losses may discourage SCGs from pursuing own revenue collection efforts (and therefore from applying the necessary tax rates to the appropriate base). Policymakers tend to respond by using a representative tax system (RTS) for fiscal equalisation, that is, an assessment of fiscal capacity based on the hypothetical revenues that would accrue to a jurisdiction were it to apply a certain (often cross-jurisdictional average) tax rate to an assumed tax base. In this way, jurisdictions are compensated for any decline in their capacity to raise own-source revenues rather than for direct falls in revenue itself. For example, Sweden uses an RTS based on municipal tax rates in 2003 as in principle these cannot be influenced by the policy choices of current local governments.

While an RTS can help to reduce the impact of an SCG's tax rate and base choices on its equalisation entitlements, certain revenues have a tax base which may be particularly sensitive to factors beyond tax policy (e.g. zoning for property taxes) (de Joode, 2017[15]). One solution is to use a simplified set of taxes within the RTS in order to reduce the SCG's incentive to make policy choices based on equalisation entitlements. Canada's 2007 reform of equalisation sought to do this by vastly simplifying the revenues

used to determine SCG fiscal capacity: a set of 34 taxes was reduced to a set of five, which aimed to enhance the policy neutrality of equalisation. Some systems contain more explicit disincentives to depress own-source revenues. Luxembourg's approach to the horizontal aspect of its equalisation system replaces standardised revenues with yield: the ratio of revenues to the tax rate, which acts as a proxy measure of the breadth of the tax base. A municipality's yield determines its contribution to fiscal equalisation, so cutting tax rates without a proportional drop in revenues drives up yield and hence the contribution requirement.

Conceptually, *yield* is similar to other measures of *tax effort*, such as that employed by India's 15th Finance Commission. *Yield* is the ratio of tax revenues to the tax rate whereas *tax effort* is often quantified as the ratio of tax revenues to the tax base. Both measures depend positively on revenue and negatively on the tax rate or the tax base, respectively. Accordingly, both measures capture the effect of factors such as compliance with taxation, tax avoidance, or the administrative efficiency of tax collection to the extent that these factors affect revenues without affecting the measured tax base or tax rate.

Imperfect equalisation

Some jurisdictions (e.g. Belgium, Germany) use an approach that acknowledges the interaction between revenue policy choices and equalising grants by restricting equalisation to a level below 100%. This may be operationalised via equalisation coefficients that set explicit limits on the extent of equalisation. For example, Belgium compensates regions for 80% of the gap between actual per capita revenues and the mean per capita revenue. Lithuania fixes this amount at 90%. In contrast, other countries (particularly Gap-filling countries, e.g. Japan, Australia) aim for a complete equalisation of fiscal capacity relative to expenditure needs. In these cases, the design of the equalisation mechanism typically aims to mitigate any incentive to suppress own-source revenues.

Basing cost equalisation on structural factors

Cost equalisation systems pose a more complex challenge, as evidenced by the range of factors that enter into the determination of SCG costs. Again, policymakers typically aim to quantify expenditure needs rather than direct costs. As explained above, sophisticated approaches are sometimes employed to assess need, based on economic or financial data adjusted to reflect certain considerations (see Figure 2.10). For example, Australia's Commonwealth Grants Commission considers factors ranging from kilometres of road to pensioners. In the Netherlands, a standardised abatement is applied to a diverse set of cost factors.

Regression-based approaches

Regression-based approaches to the determination of standardised costs have been implemented in some jurisdictions. At the state/local level, a model proposed for Massachusetts regressed per capita local spending on nine variables such as population density, age of housing stock and pupils per capita. The coefficients could be interpreted as the dollar change in expenditure requirement when a given cost factor increases by one-unit, with the error term capturing policy choices across jurisdictions. Moreover, only those coefficients with statistically significant values would be included when using the model to estimate standardised costs, with insignificant variables being discarded (Bradbury et al., 1984[16]). Similar, albeit more sophisticated, approaches can be observed in the Italian case, where regression-based analysis models local costs as a function of the optimal quantity of services offered, input prices and external or environmental factors (e.g. surface area) (SOSE – Soluzioni per il Sistema Economico S.p.a., 2014[17]). In effect, the Italian approach augments the Massachusetts model with measures of service output and input costs. Regression models of expenditure need are also employed in the Swedish equalisation system and during reviews of the Australian equalisation system (Commonwealth Grants Commission, 2015[18]).

Table 2.4. Factors used in computing equalisation entitlements for SCGs

Country	Revenues						Costs
	Income/ payroll taxes	Corporate taxes	Consumption tax	Property taxes	Other taxes	Natural resources	Examples of cost factors
Australia	✓			✓ (including land transfer taxes)	✓	✓	Main areas of public service provision (education, health, social protection, etc.), demographic and geographic factors (indigenous status, remoteness, socio-economic status, age, etc.), public sector wage costs, other factors, (net acquisition of non-financial assets, service delivery scale, cross border costs, etc.)
Brazil	✓(Per capita income)						Education transfers: Public daycare, contracted daycare, pre-school, urban primary school, countryside elementary school, urban middle school, countryside high school, vocational education, special education, indigenous education, education of young people and adults. Health transfers: historical cost parameters, epidemiological situation, challenges in setting up health surveillance system.
Japan	✓	✓	✓		✓		Standardised revenues and costs are computed for each municipality. Grants then fill the gap.
Italy	✓(Local surcharge)			✓ (IMU and TASI)	✓		General administrative, management and control functions; local police; education (complementary services); public roads and transport; land management and planning; general social services; and nursery services.
Ireland				✓			
India	✓(Per capita income)						14th Finance Commission: State area and forest cover.
Germany	✓						
Estonia	✓			✓			
Lithuania	✓						Length of local roads and streets; an area of municipal territory; retirement age population; number of children from 7 to 17 years old; number of children from 0 to 6 years old; built up area of municipal territory, other factors.
Canada	✓	✓	✓	✓	✓	✓ (50%)	
Belgium	✓ (Federal personal income tax (PIT) collected in region)						Pertains only to regions (not communities), Brussels Capital Region receives a number of special, cost-equalising grants.
Netherlands				✓			85 cost factors ranging from low-income households and welfare recipients to residential areas to shore length.
Sweden	✓						Service provision, such as pre-school, compulsory school, elderly care, health care and differing costs (wages, heating, etc) are factored into models. For each model, a standard cost for each municipality/county council is calculated, based on a number of different factors.

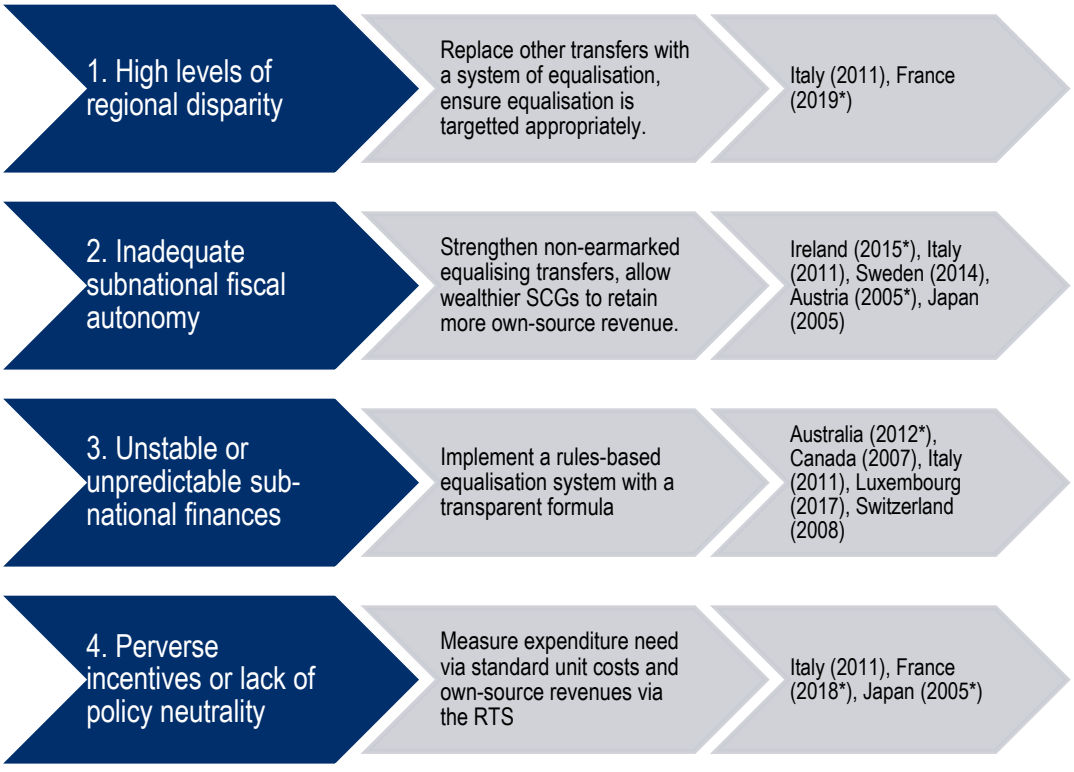
Country	Revenues						Costs
	Income/ payroll taxes	Corporate taxes	Consumption tax	Property taxes	Other taxes	Natural resources	Examples of cost factors
Switzerland	✓	✓			✓ (Taxable assets)		Geographic factors (average altitude, terrain steepness, settlement structure, low population density) and sociodemographic factors (poverty, old-age, immigrant integration, core city indicator)
Norway	✓				✓ (Net wealth, muni-cipal only)	✓	Municipal: Kindergartens, primary and lower secondary schools, child care/child protection, social welfare, elderly care, primary health sector (public health nurse, school health service, psychologist); County: Upper secondary school, county roads, public transportation (buses), boats/ferries, dental health

Source: OECD Fiscal Equalisation Questionnaire 2019.

Reforming equalisation systems

Figure 2.11. Linking motivations for equalisation reform to typical policy responses

Left to right: Motivating factor, policy response, country examples



Note: Asterisks (*) indicates that the year provided denotes the year of a recommendation rather than the year of the reform itself.

Motivating reforms to equalisation

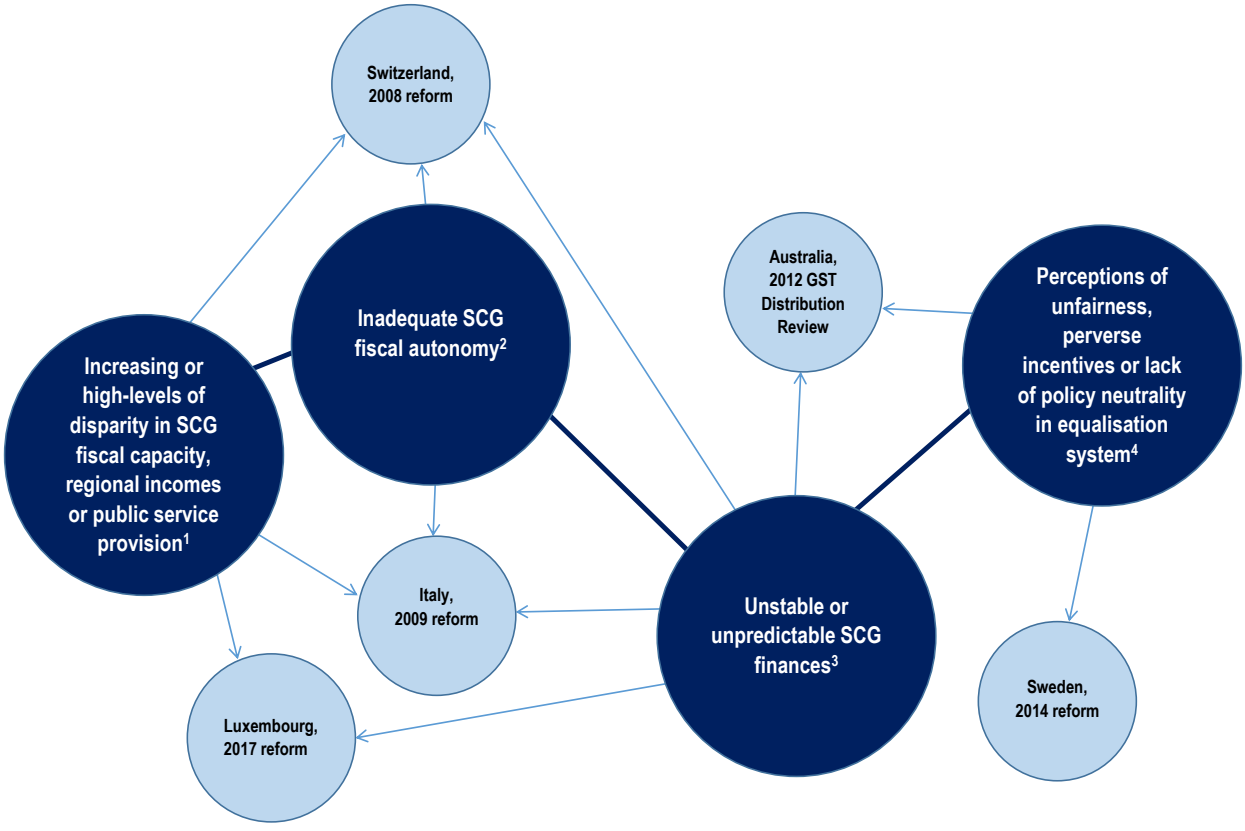
Equalisation systems are not static entities, with regular reviews often built-in to their underlying legislative frameworks. Moreover, such reviews may lead to reforms of equalisation systems, sometimes concomitant with broader reforms of fiscal federalism. Japan reviews its equalisation system annually, while Canada adheres to a system of five-year reviews. Australia updates its GST allocations on an annual basis and thoroughly reviews the associated methodology every five years (Commonwealth Grants Commission, 2015[18]). India's Finance Commission convenes every five years, setting the equalising formula for distributing tax revenues to states via a highly consultative process (Finance Commission of India, 2014[19]). In this context, it is critical for the policy maker to consider the design of the review process and the nature of possible reforms.

Several common factors motivate reforms to equalisation systems

Several key factors have been identified that motivate the reform of equalisation systems (Figure 2.12).

Figure 2.12. Factors motivating reform of equalisation systems

Large blue circles represent motivating factors; arrows link these to country examples indicating where these factors motivated subsequent reforms



1. The primary function of an equalisation system is to correct for inequalities that would otherwise inhibit comparable access to public services across SCGs.
2. Non-earmarked equalising transfers may allow local governments more fiscal autonomy.
3. The formulas underlying equalisation or other transfer systems may undermine revenue predictability for budgeting purposes due to high degrees of complexity or where they take account of volatile revenues.
4. Equalisation systems are sometimes criticised for reducing subnational tax effort or weighing on economic growth.

The process of reform

Figure 2.13 summarises the questions faced by the policy maker when reviewing and reforming fiscal equalisation systems in order to systematically address the concerns enumerated above.

Figure 2.13. The process of equalisation reform

Typical question considered during reviews of equalisation systems

Evaluating the equalisation system modality

Equalisation modality hinges on how fiscal capacity is measured

As illustrated in Figure 2.13, questions of system design are salient during the early stages of an equalisation review. However, the answers vary widely. Countries that choose to quantify fiscal capacity in terms of SCG own-source revenues alone will tend towards a system of pure revenue equalisation (e.g. Canada and Germany). On the other hand, countries that choose to incorporate variation in per capita cost must then choose between a system of distinct cost and revenue equalising grants (e.g. The Netherlands, Sweden and Switzerland), or an integrated gap-filling transfer (e.g. Australia, Japan and Korea).

The determination of fiscal capacity, and in turn equalisation modality, tends to hinge on two foundational questions:

1. Do SCGs have sufficient fiscal autonomy such that, were each to have equivalent per capita own-source revenues, each could make the choices necessary to deliver the desired bundle of services for its residents?
2. If not, which other drivers of inter-regional inequality, such as costs, need to be taken into account?

In response to the first question, Canada's last review of fiscal equalisation returned with a firm "yes," precluding the adoption of a system of cost equalisation which was seen as needless in the presence of very high provincial fiscal autonomy (Expert Panel on Equalization and Territorial Formula Financing, 2006[13]). Conversely, in the Dutch case, low degrees of municipal tax autonomy were described as a "bottleneck" with respect to equalisation reform (de Joode, 2017[15]), necessitating a compensatory increase in municipal tax autonomy concomitant with any reduction in fiscal equalisation. Moreover, the Netherlands' equalisation system remains heavily cost-oriented (see Figure 2.6).

In contrast to Canada, Australia's equalisation system takes place within the context of an extensive vertical fiscal gap. This means that, in principle, own-source revenues are insufficient to cover state-level costs. Accordingly, as part of each five-year review of the equalisation system, the Commonwealth Grants Commission must undertake a detailed analysis of the structural factors underlying cost inequality between Australian states. This enables the development of policy-neutral cost indicators, which allow for the measurement of fiscal capacity.

Data requirements vary with the design of the equalisation system

Data availability is a key consideration when designing equalisation formulas. Australia's Commonwealth Grants Commission has identified the contemporaneity of data as important to ensuring the functionality of the equalisation system (Commonwealth Grants Commission, 2015[18]). This, combined with the vast number of variables that factor into its estimation of expenditure need, makes for a system that is highly dependent on a wide array of timely data and the infrastructure required to produce them. However, as evidenced by the broad variation in the complexity of cost-equalisation models (see Figure 2.10), this is by no means the only approach. In the guidance of the 14th and 15th Finance Commissions, India's assessment of costs depended on only two variables: state surface area and forest cover.[6] Latvia and Lithuania propose a middle ground, with four and nine cost variables, respectively, entering into their cost-equalisation formulas.

Selecting the rate of equalisation

Once the equalisation modality has been determined, the question of the rate of equalisation arises. The rate of equalisation denotes the extent to which an equalisation system rectifies inter-regional disparities. In practice, this rate refers to a coefficient that quantifies how close equalising transfers bring a given SCG to mean per capita revenues (in the case of revenue-equalising systems) or expenditure needs (in the case of systems with a cost equalising component). It is important to remember that, in the absence of offsetting policy measures, this coefficient has two equivalent interpretations: first, it defines the rate at which a jurisdiction is compensated for each dollar lost when its fiscal capacity falls relative to the mean or its expenditure need. Second, it defines the rate at which a jurisdiction's equalising transfers are clawed-back for each dollar gained when fiscal capacity rises.

Among countries that specify an explicit rate of equalisation, this rate typically varies between 60% and 100% (see Table 2.1). In fact, there is evidence from German municipalities that higher equalisation rates may promote more efficient taxation choices by local government when they face greater clawbacks in the presence of rising own-source fiscal capacity (Holm-Hadulla, 2020[20]). In the case of gap-filling systems,

the difference between standardised own-source revenues and standardised costs is generally filled completely.

The rate of equalisation is closely connected to the funding source of equalising transfers, particularly where equalisation is fully (e.g. Lithuania and Ireland) or partially horizontal (e.g. Germany and Sweden). In the presence of horizontality, the rate of equalisation reflects not only the extent of compensation to poorer SCGs, but also the contribution rate faced by wealthier SCGs. Generally, wealthier SCGs are allowed to keep some of their additional revenues above the mean in order to promote tax effort and local economic development. For example, Swedish municipalities only contribute to equalisation once their per capita revenues exceed 115% of the standardised mean. In cases where equalisation is purely vertical (e.g. Japan and Korea), it is sometimes funded through an earmarked portion of central revenues. In Japan, equalisation is funded via a dedicated revenue stream consisting of 33.1% of income tax and corporate tax revenues, 50% of liquor tax revenues, and 20.8% of consumption tax and local corporation tax revenues.

The extent of equalisation often prompts a lively debate because it is seen as having direct implications for subnational tax effort, and in some cases, economic growth itself. However, it is important to note that such effects are challenging to observe directly.[7] Moreover, some national reviews have concluded that equalisation systems are unlikely to have an adverse impact on economic development. Both Australia and Sweden's last major reviews of fiscal equalisation concluded that there was no discernible evidence of such effects. While Sweden pursued a reform in 2014 that was designed to allow wealthy municipalities to retain more of their own-source revenues, this change was reversed in 2016. Subsequent reviews have focussed on increasing redistribution in favour of rural and remote regions and those with lower socio-economic status.

Equalisation may not supplant all other transfers

Equalisation is not always well adapted to replacing all other forms of inter-governmental transfers. Where equalising transfers are dependent on buoyant revenue streams they may illustrate the pro-cyclicality of government revenue more generally. Moreover, the frequent use of lagged variables in their underlying formulas may make them less responsive to emerging crises. For these reasons, sudden events such as the COVID-19 pandemic may require different instruments to mitigate asymmetric impacts (see Box 2.2). In addition, where an equalisation system replaces other transfers, it may need to adopt indicators that capture the criteria upon which the erstwhile transfers were based. As a result, equalisation formulas may become increasingly complex and difficult to interpret.

Box 2.2. Equalisation and COVID-19

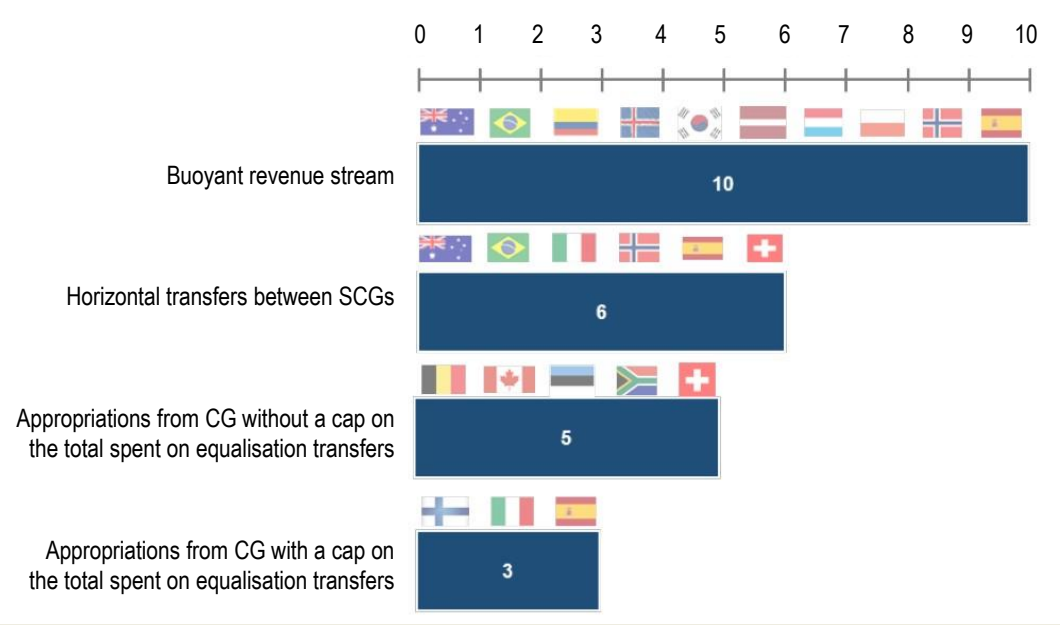
Amid the pandemic (May 2020), the OECD's Fiscal Network conducted a rapid survey on COVID-19 and intergovernmental fiscal relations, which included questions on equalisation. The implications of the pandemic may interact with equalisation systems by changing the geographic distribution of the demand for equalising payments and, in principle, an efficient equalisation system could alleviate the asymmetric differences of the current crisis. However, where funds for equalising transfers are tied to dedicated revenue streams or capped at a certain growth rate, the available revenues may shrink as a result of the pandemic, leading to a negative impact on the size of the transfers themselves. Moreover, it is common for countries to link equalising transfers to lagged indicators of fiscal capacity or to a moving average, which could reduce their equalising effects in a time of crisis.

Approximately half of the countries that responded to the survey indicated that COVID-19 had asymmetric impacts across regions (10 out of 21). While a significant portion were not yet able to determine whether impacts were asymmetric at the time of the survey (7 out of 21), only a small minority

of countries indicated that they had not observed any asymmetries (4 out of 21). Among the ten countries that observed asymmetry, all observed asymmetric cost increases and nine out of ten observed asymmetric revenue losses. However, when it came to the magnitude of these impacts, the majority of respondents indicated that SCGs' revenues, rather than costs, would be harder hit. Only one country indicated that they anticipated that cost increase would have a greater impact on SCG finances than revenue drops.

Within many equalisation systems, funding for transfers comes from a source that fluctuates with revenue receipts (Figure 2.14).

Figure 2.14. Fiscal equalisation funding streams

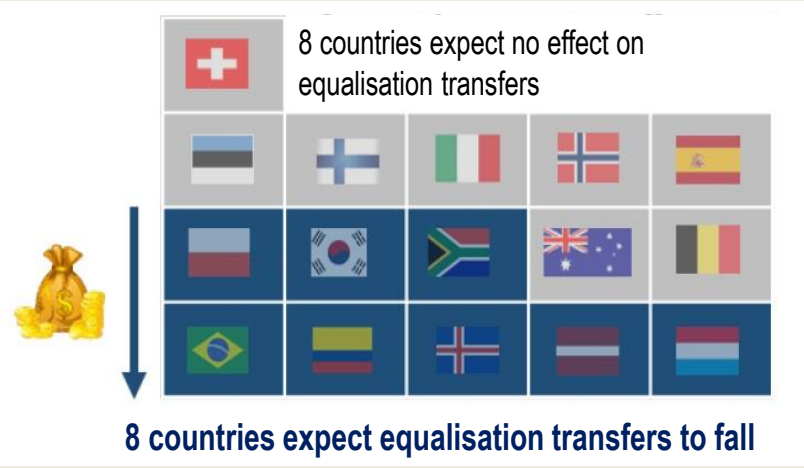


Note: Only countries that answered the respective question are shown. Poland and Latvia were considered to have a buoyant revenue stream since both mentioned that the equalisation formula involves tax revenue collected.
Source: Based on the COVID-19 Rapid Survey held by the Network in June 2020.

Eight countries indicated that equalisation is at least partially funded by appropriations from central government revenues and six indicated that it is at least partially funded by horizontal transfers among SCGs. Depending on the income elasticity of revenue at the central and subnational levels, transfers funded by central government and horizontal transfers may both be susceptible to contractions in economic activity.

As seen in Figure 2.15, half of respondents anticipated a fall in total equalising transfers, whereas only one country, Canada, anticipated an increase to one of its two equalising transfers (the Territorial Financing Formula). Overall, this suggests that equalisation systems may have a pro-cyclical impact on subnational finances. Importantly, several respondents indicated that the use of lagged variables when computing equalisation payments means that the effect of the pandemic may not be reflected in the actual sums paid to SCGs for several years (e.g. Australia, Colombia, Finland and Poland).

Figure 2.15. Impact on total amount transferred by fiscal equalisation



Note: Only countries that answered the respective question are shown. Canada expects no direct effect on provincial equalisation transfers and an increase in payments made via the Territorial Financing Formula.
Source: Based on the Fiscal Network's COVID-19 Rapid Survey in June 2020.
Source: Dougherty et al. (2020[21]).

In view of this, some countries have taken the approach that equalisation systems should not supplant all other grants. For example, the 13th Finance Commission of India highlighted the important role of "grants-in-aid" noting that that they allow for the compensation of "cost disabilities faced by many states which are possible to address only to a limited extent in any devolution formula" (Finance Commission of India, 2009[22]). Similarly, Australia's Commonwealth Grants Commission noted that equalisation alone "cannot overcome the disadvantage experienced by some indigenous communities. Where additional measures are required, they would best be undertaken outside the HFE (i.e. horizontal fiscal equalisation) system and excluded from it" (Australian Government, 2012[23]). Other examples of financing programmes designed to operate outside of the fiscal equalisation system include Canada's Territorial Financing Formula and the grants received by the Brussels capital region outside of Belgium's National Solidarity Mechanism.

Implementing transition measures

Adjustments to equalisation systems typically create winners and losers. This often necessitates a period of transition as changes are phased-in. Such transition periods are typically characterised by concessions along the following two dimensions: (a) compensation to losing jurisdictions as a share of their loss arising from the change; and (b) a transition period of a fixed duration. The first dimension is conceptually equivalent to the determination of the equalisation rate itself. For example, if the equalisation rate is increased from 0.9 to 0.95, a jurisdiction that sees a rise in measured fiscal capacity in the following period will see a greater absolute loss in equalising transfers under the new equalisation rate.[8] However, if the jurisdiction receives compensation to mitigate the difference, the equalisation rate is effectively reduced. The second dimension, the duration of transition, allows jurisdictions to increase own-source revenues to make up for any adjustment to the equalisation they receive.

Some recent transition measures have lasted a decade or more in duration and provided substantial protection to losing jurisdictions. In Switzerland, transitional grants arising from the 2008 reform amounted to about 7% of total equalising transfers in 2016. These transfers will be reduced by 5% a year until 2036 when they will be eliminated and they are not paid to cantons whose measured fiscal capacity exceeds the mean (Administration fédérale des finances, 2012[24]; 2019[25]). Sweden paid similar transitional grants to jurisdictions that saw losses arising from its 2014 reform. However, because this reform was reversed

in 2016, the sums paid recently have been fairly minor as a portion of total equalising transfers, constituting about 0.1% of total equalisation funds in 2018. Italy's approach to transition saw the old and the new equalisation formulas co-existing for a period of several years, with the percentage of local government funding distributed by the new system increasing every year, rising from 20% in 2015 to 45% in 2018 to reach 60% in 2022. It will then rise by 5% per year, reaching 100% in 2030. Finally, Canada introduced a transitional measure known as Total Transfer Protection (TTP) in the fiscal year 2010-11. It followed the move in 2009 to a fixed funding envelope for equalisation payments which grows at the rate of nominal GDP. The TTP served as a backstop ensuring that no province received less in combined federal transfer payments than in the previous year, regardless of any changes that had taken place. The TPP was in place until 2013-14 (Feehan, 2014[26]; Nadeau, 2014[27]), and amounted to roughly 5% of equalisation payments over the period.

Guidance from OECD country surveys on equalisation reform

Where equalisation systems have been examined within the scope of OECD country surveys, several measures have been recommended to respond to the challenges identified previously (Table 2.5).

Table 2.5. Past recommendations on fiscal equalisation from country surveys and related papers

Principal survey recommendations on equalisation

Country	Year	Principal recommendations					
		Cost equalisation should reflect structural measures of cost rather than past or current spending	Make equalisation formula more transparent or simplify it	Adjust formula to reflect demographic changes, such as ageing	Allow SCGs to keep more own-source revenue	Improve targeting of equalisation/ provide special support to poor regions	Increase horizontal equalisation
France	2019	✓				✓	✓
Switzerland	2019			✓			
Sweden[1]	2010		✓	✓	✓		
Italy	2009		✓				
Austria	2005				✓	✓	✓
Japan	2005	✓	✓		✓		

1. Based on a territorial review.
Source: Forman et al. (2020[28]).

Enhance the policy neutrality and relevance of cost equalisation

The challenges of cost equalisation are reflected in the recommendations of country surveys. France and Japan, which share robust cost equalisation systems, were advised to separate measures of expenditure need from actual spending in order to enhance policy neutrality. This could include the use of standard unit costs. Additionally, surveys have urged the simplification of equalisation formulas as a way of achieving greater transparency (e.g. Sweden, Italy and Japan). Finally, surveys have noted the need to ensure that cost equalisation formulas capture relevant variables as drivers of expenditure evolve in the face of changing demographics (e.g. Switzerland and Sweden).

Equalisation should be carefully targeted to ensure it is not exacerbating disparities nor undermining SCG fiscal autonomy

In some cases, country surveys have noted that equalisation systems are not fulfilling their intended purpose and may therefore be exacerbating disparities or undermining SCG fiscal autonomy. For example, in France 97.5% of municipalities received at least one type of vertical equalisation transfer in 2018 (OECD, 2019[29]) suggesting that the scope of the system had gone beyond the traditional purview of equalisation and subsumed other types of transfers. Moreover, the use of lump-sum payments and indicators based on past tax-raising ability may have been perpetuating inequalities. In response, improved targeting and the use of horizontal equalisation was recommended, based partially on past OECD work that suggests horizontal equalisation is more equalising per dollar spent (Blöchliger and Charbit, 2008[7]). Similarly, the use of targeted support to poorer regions concomitantly with the introduction of horizontal equalisation was recommended in Austria. In the interest of improving sub-central fiscal autonomy, Austria was also encouraged to allow SCGs to retain more own-source revenues, as were Sweden and Japan.

Table 2.6. Common reforms to equalisation systems

Outcomes of reforms and reviews of equalisation systems

Country	Year	Outcome					
		Enhance subnational fiscal autonomy		Implement rules-based systems		Updating and simplification	
		Allow SCGs to retain more own-source revenue/Raise SCG tax autonomy	Replace systems of earmarked transfers with equalisation (non-earmarked)	Move to or retain a system of standardised costs, less influenced by past expenditure	Move to or retain a rules-based, rather than discretionary, equalisation system	Simplify equalisation formulas	Update equalisation formulas
Australia	2015				✓		✓
Canada	2007				✓	✓	
Ireland	2015[1]	✓					
Italy	2009	✓	✓	✓	✓		
Japan	2002	✓	✓	✓	✓	✓	
Luxembourg	2017					✓	
Switzerland	2008		✓		✓		
Sweden	2014	✓					✓

1. Issued as recommendations by an external report in 2015, endorsed by an inter-departmental report in 2019.
Source: Forman et al. (2020[28]).

Equalisation reform in practice

In practice, large-scale reforms aim to reinforce subnational fiscal autonomy and stability through the adoption of rules-based equalisation systems

Table 2.5 also reflects the principal outcomes of major reviews and reforms of equalisation systems. It is important to illustrate how these measures connect to the challenges identified above that motivate their implementation (see Figure 2.12), by linking motivations for equalisation reform to typical policy responses. In general, reforms centre on defining a clear set of rules in order to enhance clarity and predictability for SCGs.

Italy's comprehensive equalisation reform

The Italian case is illustrative of a comprehensive equalisation reform that covers many of the elements observed in other countries. Introduced in 2011, the equalisation system was born out of a broader 2009 reform of fiscal federalism and encompassed a set of measures that aimed to address the opacity that had emerged within local government finance. To deal with high levels of regional disparity, the new equalisation system was designed to replace other transfers which were not targeted based on local fiscal capacity. This simultaneously enhanced subnational fiscal autonomy as the equalising transfers were non-earmarked. To avoid perverse incentives, the system employed standard unit costs rather than past spending when determining expenditure need. In a similar vein, the use of a formula-based system aimed to increase transparency from the perspective of local governments. In contrast, the former system of transfers tended to be negotiated between levels of government based on historical costs rather than objective allocation criteria (OECD, 2012[30]).

Moving towards rules-based systems

As in Italy, other countries' reforms of equalisation have tended towards rules-based systems with fewer discretionary elements, meaning that allocations are based on clearly articulated formulas and set criteria. In comparison with ad-hoc negotiations between levels of government, this can ensure predictability for SCGs (Expert Panel on Equalization and Territorial Formula Financing, 2006[13]). A current reform proposal in Switzerland aims to guarantee a particular equalisation rate to cantons, with funding determined formulaically as opposed to on a periodic basis (Weber, 2019[31]). Likewise, the last major reviews of the Australian and Canadian equalisation systems emphasised the importance of rules-based systems (Australian Government, 2012[23]; Expert Panel on Equalization and Territorial Formula Financing, 2006[13]). Such rules-based approaches, however, may be accompanied by a concomitant reduction in the influence and power of ministries that were formerly responsible for advancing their policy agendas through the disbursement of local government grants. This was the case in Japan where concerns were raised that the reduction in earmarked grants in favour of the equalising local allocation tax would reduce the ability of ministries to pursue policy objectives (OECD, 2016[32]).

Enhancing subnational fiscal autonomy

The Italian reform's objective of enhancing local fiscal autonomy can be observed across reviews and reforms of other equalisation systems. For example, Switzerland's 2008 reform aimed to enhance local fiscal autonomy through reducing the use of earmarked transfers in favour of non-earmarked, equalising transfers (Administration fédérale des finances, 2012[24]). Similarly, two recent reviews of Ireland's equalisation system recommended allowing local governments to retain 100% of the property tax revenue they generate locally (Thornhill, 2015[33]; Department of Finance, 2019[34]). While this would enhance local fiscal autonomy, it would also eliminate the horizontal component of the equalisation system, which is presently funded through a 20% share of local authority property tax revenues. Consequently, this would need to be replaced by vertical transfers. Conversely, the Swiss equalisation reform included a renewed horizontal revenue equalisation component amounting to between two-thirds and four-fifths of the vertical component. Finally, Sweden's 2014 reform of fiscal equalisation aimed to allow municipalities that would pay into the horizontal component of the system to retain more of their own-source revenues, in the interest of encouraging local economic development. However, this change was reversed two years later.

Japan's "trinity reforms" provide a further study of equalisation reform within the broader context of enhancements to subnational fiscal autonomy, including the use of equalising transfers as a replacement for earmarked grants. In 2004, a revenue transfer of JPY 3 trillion to the local level replaced over one hundred earmarked subsidies. A further JPY 512 billion in earmarked subsidies was bundled into a general subsidy in 2011 (OECD, 2016[32]). Importantly, the principal mechanism by which non-earmarked funds are allocated to local governments, the local allocation tax (LAT), has an explicit equalising function. While

policymakers aimed to base the LAT on equalising, policy-neutral criteria that are less influenced by the extent of past infrastructure spending (e.g. standardised unit costs), critics have noted that the revenues transferred to the local level were not sufficient to compensate for the reduction in grants. Accordingly, some subsequent reforms have focussed on raising subnational fiscal capacity through increases in local consumption taxes (OECD, 2017[35]; Tokyo Metropolitan Government, 2018[36]).

Reforms to established equalisation systems tend to reinforce transparency and relevance through simplification and updating of formulas

Simplifying equalisation formulas

The high levels of complexity associated with some equalisation systems, and the formulas underlying them, have at times motivated simplification efforts. In Luxembourg, the principal outcome of the 2017 equalisation reform was the unification of the two former equalising transfers into a single transfer: the *Fonds de dotation globale des communes* (FDGC). The FDGC adheres to a single set of criteria, in contrast with the differing criteria of the two previous transfers. This drove a reduction in post-equalisation disparities since the new criteria were more equalising, and applied more broadly to funds transferred to the local level (Laurent, 2018[37]). Similarly, simplicity was one of the objectives of Japan's trinity reforms, which aimed to favour "objective" cost equalisation criteria applied broadly to a single larger grant as opposed to many, smaller earmarked grants (OECD, 2016[32]). On the revenue measurement side, Canada's experience simplifying its RTS is instructive when it comes to finding a compromise between accurately capturing true fiscal capacity and the excess complexity created by attempts to measure all potential revenue sources. In 2007, Canada's RTS, which had formerly aimed to estimate provincial fiscal capacity based on thirty-three revenue sources, was scaled back to five revenue sources (Feehan, 2014[26]).

Updating equalisation formulas

Complex cost equalisation formulas that depend on dozens or hundreds of variables demand extensive data inputs. While such systems are often the product of years of careful efforts to capture the structural drivers of inter-regional cost disparities, they require continuous updating to ensure that they remain relevant and do not inadvertently perpetuate inequalities. In the Netherlands, this is handled through Period Maintenance Reports (*Periodiek Onderhoudsrapport*) which examine annually whether the amounts municipalities actually spend in designated areas corresponds to the amount that they would be expected to spend for the purposes of distributing the Municipal Fund (de Joode, 2017[15]). In Sweden, a recent review of the equalisation systems suggested that it was failing to address the costs faced by rural municipalities, though it continued to take into account some criteria that were no longer relevant. In response, the review recommended that the equalisation formula be adjusted to better account for geography and demographics, extended to include library operation costs, and perhaps further extended to take account of the costs of voluntary services (Riksrevisionen, 2019[38]). Other ongoing work in the Swedish equalisation system focuses on developing inputs to the formula that would be automatically updated with the most recent data.

Australia's equalisation methodology is updated annually and reviewed every five years to ensure that the determination of state-level cost disabilities adheres to four key principles: accurately reflecting what States collectively do, policy neutrality, practicality, and contemporaneity, or ensuring that relative GST shares are appropriate to the year in which they are applied. For example, this may involve modifications to indices that measure remoteness to better capture how remote a city is vis-à-vis the costs it faces. On the revenue side, this could involve phasing in the measured increases in tax-raising capacity derived from natural resource extraction, with the aim of ensuring that those states that have seen revenue increases from natural resources are not unfairly penalised by a concomitant drop in GST share (Commonwealth Grants Commission, 2015[18]).

References

Administration fédérale des finances (2019), *Rapport technique sur la péréquation financière: Bases pour la période 2020-2023*, Confédération suisse. [25]

Administration fédérale des finances (2012), *Péréquation financière nationale: Renforcement du fédéralisme*, Confédération suisse. [24]

Australian Government (2012), *GST Distribution Review--Final Report*. [23]

Blöchliger, H. and C. Charbit (2008), "Fiscal equalisation", *OECD Journal: Economic Studies*, Vol. 2008/1, https://dx.doi.org/10.1787/eco_studies-v2008-art8-en. [7]

Boadway, R. (2003), *The Theory and Practise of Equalization*, Queen's Economics Department Working Paper No. 1016. [3]

Boadway, R. and A. Shah (2009), *Fiscal Federalism: Principles and Practice of Multiorder Governance*, Cambridge University Press, New York City. [4]

Bradbury, K. et al. (1984), "State aid to offset fiscal disparities across communities", *National Tax Journal*, Vol. 37/2, pp. 151-170. [16]

Commonwealth Grants Commission (2015), *Report on GST sharing relativities 2015 review*, Australian Government. [18]

Coppel, J. (2018), *The economic impacts of HFE: lessons from Australia*, 14th Annual Meeting of the Network on Fiscal Relations across Levels of Government. [9]

Danilo Ballanti, F. (ed.) (2014), *The Italian way towards standard expenditure needs*. [17]

de Joode, G. (2017), *Considering Differences*, Ministry of the Interior and Kingdom Relations (the Netherlands), http://www.rijksoverheid.nl/documenten/rapporten/2017/06/01/rekening-houden-met-verschil. [15]

Department of Finance (2019), *Review of Local Property Tax: The report of the Interdepartmental Group*, An Roinn Airgeadais-Department of Finance Ireland. [34]

Dougherty, S. and K. Forman (2021), "Evaluating fiscal equalisation: Finding the right balance", *OECD Working Papers on Fiscal Federalism*, No. 36, OECD Publishing, Paris, https://dx.doi.org/10.1787/253da2b8-en. [6]

Dougherty, S., A. Renda and L. von Trapp (2021), "Independent oversight bodies: lessons from fiscal, productivity and regulatory institutions", in *Making Institutions Work*, HSRC Press. [8]

Dougherty, S. et al. (2020), "COVID-19 and Fiscal Relations across Levels of Government", *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, https://doi.org/10.1787/ab438b9f-en. [21]

Expert Panel on Equalization and Territorial Formula Financing (2006), *Achieving a national purpose: putting equalization back on track.*, Department of Finance Canada. [13]

Federal Ministry of Finance (2018), *The Federal Financial Equalisation System in Germany*, Bundesministerium der Finanzen [Federal Ministry of Finance (Germany)]. [10]

Feehan, J. (2014), *Canada's equalisation formula: peering into the black box... and beyond.*, The School of Public Policy, University of Calgary, https://www.policyschool.ca/wp-content/uploads/2016/03/feehan-equalization.pdf. [26]

Finance Commission of India (2021), *Finance Commission in COVID Times*, Fifteenth Finance Commission of India. [39]

Finance Commission of India (2014), *Fourteenth Finance Commission Report*. [19]

Finance Commission of India (2009), *Thirteenth Finance Commission Report*. [22]

Forman, K., S. Dougherty and H. Blöchliger (2020), "Synthesising good practices in fiscal federalism: Key recommendations from 15 years of country surveys", *OECD Economic Policy Papers*, No. 28, OECD Publishing, Paris, https://dx.doi.org/10.1787/89cd0319-en. [28]

Holm-Hadulla, F. (2020), "Fiscal equalization and the tax structure", *Regional Science and Urban Economics*, Vol. 81, p. 103519, http://dx.doi.org/10.1016/j.regsciurbeco.2020.103519. [20]

Kim, J. and S. Dougherty (eds.) (2018), *Fiscal Decentralisation and Inclusive Growth*, OECD Fiscal Federalism Studies, OECD Publishing, Paris/Korea Institute of Public Finance, Seoul, https://dx.doi.org/10.1787/9789264302488-en. [5]

Laurent, E. (2018), "La réforme des finances communales de 2017", in *Bulletin BCL 2018-1*, Banque Centrale du Luxembourg. [37]

Nadeau, J. (2014), *2014-2015 Federal Transfers to Provinces and Territories*, http://www.pbo-dpb.gc.ca/web/default/files/files/files/TransferPayments_EN.pdf. [27]

OECD (2019), *OECD Economic Surveys: France 2019*, OECD Publishing, Paris, https://dx.doi.org/10.1787/a0eee144-en. [29]

OECD (2017), *Multi-level Governance Reforms: Overview of OECD Country Experiences*, OECD Multi-level Governance Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264272866-en. [35]

OECD (2016), *OECD Territorial Reviews: Japan 2016*, OECD Territorial Reviews, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264250543-en. [32]

OECD (2013), "Fiscal equalisation: A key to decentralised public finances", in *Fiscal Federalism 2014: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264204577-7-en. [1]

OECD (2012), "Italy: Law 42 on fiscal federalism", in *Reforming Fiscal Federalism and Local Government: Beyond the Zero-Sum Game*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264119970-10-en. [30]

OECD (2006), *OECD Economic Surveys: Germany 2006*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eco_surveys-deu-2006-en. [12]

OECD/KIPF (2016), *Fiscal Federalism 2016: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264254053-en. [2]

Phillips, L. (2018), "Improving the Performance of Sub-national Governments through Benchmarking and Performance Reporting", *OECD Working Papers on Fiscal Federalism*, [14]

No. 22, OECD Publishing, Paris, https://dx.doi.org/10.1787/ffff92c6-en.

Riksrevisionen (2019), *Det kommunala utjämningssystemet [The Municipal equalisation system]*, Riksrevisionen [Swedish National Audit Office]. [38]

SOSE (2018), *The Case of Italian Municipalities (an example of a fiscal equalisation system)*, https://www.opencivitas.it/sites/default/files/Allegati/Presentation%20Lithuania_II.pdf. [11]

Thornhill, D. (2015), *Review of the Local Property Tax (LPT)*. [33]

Tokyo Metropolitan Government (2018), *Tokyo's Financial System*, http://www.metro.tokyo.lg.jp/ENGLISH/ABOUT/FINANCIAL/financial01.htm. [36]

Weber, W. (2019), *Recent Developments in Intergovernmental Relations*, Proceedings of the 2019 annual meeting of the OECD Network on Fiscal Relations, http://oe.cd/fiscalnetwork. [31]

Notes

[1] Australia's equalisation system is classified as gap-filling. Gap-filling systems require that both SCG revenues and costs be assessed to determine the size of the "gap" to be filled by equalisation.

[2] Note this figure includes equalising transfers to regions only.

[3] In order to disentangle the cost and revenue components of gap-filling systems, the hypothetic horizontal transfer necessary to bring to all jurisdictions to average per capita revenue was computed as the revenue equalising component of the transfer. Then, the hypothetic transfer required to bring all jurisdictions to their pre-determined level of financial need was computed as the cost equalising component. The magnitude of these two components was compared to determine the relative contributions of cost and revenue equalisation to the total transfer.

[4] A factor is a driver of cost disparity, such as a public service or a geographic feature, rather than a variable which enters directly into a formula. Factor are quantified by one or more variables.

[5] These two criteria were maintained in the formula employed by the 15th Finance Commission. There is some discussion as to whether the forest cover criterion should be interpreted as compensation for the cost disability imposed by forest or an incentive to reward the provision of ecological services (Finance Commission of India, 2021[39]).

[6] The Indian Finance Commissions sometimes describe population as a cost criterion, however for the purposes of this cross-country analysis, transfers with an equal per capita impact are not considered equalising since they do not compensate for per capita cost or revenue disparities between jurisdictions.

[7] For example, the Australian Government's GST distribution review concluded "the current system creates perverse theoretical incentives in some instances, but there is little evidence that they have any effect in the real world. In particular, there is no evidence that HFE acts as a material disincentive to State tax reform" (2012[23]).

[8] For example, under a theoretical revenue equalisation scheme, an SCG at 80% of mean fiscal capacity will be compensated to 98% of mean fiscal capacity at an equalisation rate of 0.9 and 99% of mean fiscal capacity at an equalisation rate of 0.95. Should its fiscal capacity increase to 90%, it will be compensated to 99% of mean fiscal capacity at an equalisation rate of 0.9 and 99.5% of fiscal capacity at an equalisation rate of 0.95. The loss in equalising transfers when fiscal capacity increases amounts to 9 percentage points in the presence of an equalisation rate of 0.9 and 9.5 percentage points in the presence of an equalisation rate of 0.95. In the latter case, the SCG must raise more own-source revenue to compensate for the measured increase in its fiscal capacity.

3 Twenty years of tax autonomy across levels of government: Measurement and applications

The Network on Fiscal Relations has been assessing the degree of sub-central government tax autonomy in OECD countries for almost two decades. This chapter provides an overview of the methodology used to characterise tax autonomy. After summarising the widespread use of the tax autonomy results by researchers addressing a range of policy issues, the chapter highlights recent trends in sub-central government revenues and presents the results of the latest survey of tax autonomy, completed in 2020. Using the OECD's tax autonomy methodology, the chapter then assesses local government tax autonomy in the 50 US states. The analysis reveals that US local governments have somewhat more tax autonomy than local governments in the average OECD country. The chapter also includes refinements of the tax autonomy methodology.

Introduction and main findings

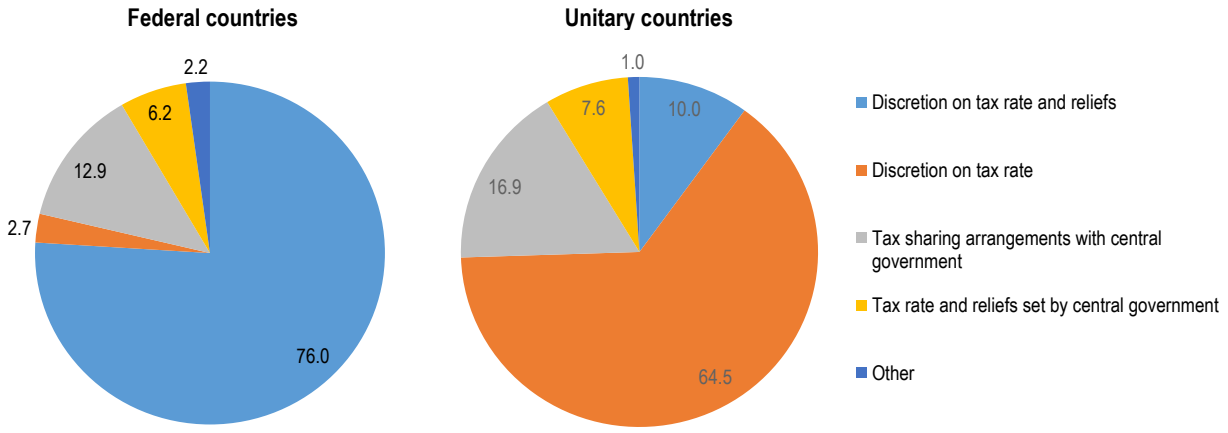
Much of the economic and political benefit of decentralised public finance comes from the ability of subnational or sub-central governments (SCGs) to make their own decisions about taxation. A local or regional government that is able to define its own tax bases, tax rates, and other characteristics of a tax has a high degree of *tax autonomy* or *taxing power*. To provide accurate cross-national comparisons of the importance of state and local governments in countries' fiscal systems, it is important to be able to characterise state and local tax systems by their degree of tax autonomy.

Starting in 1995, the OECD began to assess the tax autonomy of state or regional and local governments in OECD member countries. A taxonomy was developed to assess the degree of tax autonomy in each country. Each tax instrument used by state or local governments in a country is assigned one of twelve possible policy-based codes to indicate the extent of tax autonomy for the instrument. The results of this exercise are summarised by calculating the share of total government revenue by level of government assigned to each tax autonomy code. From the inception of the OECD Network on Fiscal Relations in 2003, the OECD has completed the tax autonomy study once every three years, with the latest analysis carried out in 2020, based on data for 2018, the most recent final data available at the time. The results of these tax autonomy studies are disseminated in the OECD's Fiscal Decentralisation database.[1]

These tax autonomy indicators provide the following major insights:

- A composite measure of tax autonomy shows that local governments in the OECD have significantly less tax autonomy than is suggested by simple expenditure or revenue-based measures of decentralisation. The largest degree of SCG discretion over taxes relates to that for the recurrent taxation of immovable property.
- While the profile of SCG tax autonomy differs markedly between federal and unitary countries (Figure 3.1), cross-country differences are most marked for unitary countries. There has been a gradual increase in tax autonomy of SCGs over time.
- In a unique application of the methodology to all 50 US states, local governments are found to have somewhat more tax autonomy than in the average OECD country, and rely much more heavily on property taxation.
- A substantial number of studies have made use of the OECD tax autonomy indicators to examine the effects of increased SCG decentralisation on outcomes such as long-term economic growth, for which the effects are mixed.
- Potential methodological tweaks to address measurement challenges are proposed, along with ways to enhance the timeliness and country coverage of the indicator.

Figure 3.1. Tax autonomy for federal and unitary countries, 2018 (share of revenues)



Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/3s7tg1

The chapter provides an broad overview of the methodology used by the OECD to characterise tax autonomy (Dougherty, Harding and Reschovsky, 2019[1]). The second section introduces the importance of measuring tax autonomy for sub-central governments. The third section explains what indicators are used to measure the degree of autonomy. The fourth section documents how the tax autonomy results have been used by researchers to explore the effect of tax autonomy on a range of policy outcomes. The fifth section presents the main results of the most recently completed tax autonomy study. Finally, the sixth section extends the methodology to measure local government tax autonomy in the United States.

The importance of tax autonomy for sub-central governments

Starting with the seminal work of Wallace Oates (1972[2]), economists have highlighted a number of benefits accruing from a fiscal organisation that provides local governments with a substantial amount of freedom to make their own decisions about spending and taxation. On the other hand, there is also a subsequent literature that identifies difficulties with mobile factors of production, equity concerns and capacity constraints. These arguments suggest that some types of revenues are better collected at the local level as a result of their less mobile bases.

The problems of measuring fiscal decentralisation and comparing the degree of decentralisation across countries are complex and widely discussed. The most frequently used measure of fiscal decentralisation is the share of a country's total tax revenue raised by its SCGs, or the share of total public expenditure attributable to SCGs. There exists, however, a substantial literature that has argued that these fiscal share measures provide highly imperfect measures of fiscal decentralisation (Owens and Panella, 1991[3]; Ebel and Yilmaz, 2003[4]; Stegarescu, 2005[5]; Bird, 2011[6]; Baskaran and Feld, 2012[7]; Blöchliger, 2015[8]; OECD, 2019[9]). The basic problem is that true fiscal decentralisation requires that SCGs be fiscally autonomous. This means that they are free to decide how much revenue to raise and how to spend their available revenues. Without these capabilities, the efficiency and accountability benefits of decentralisation would be diminished.

Revenue statistics, whether from the OECD's databases or from country-specific budget documents, indicate the level of government to which revenues are attributed, but provide no indication of whether those governments have the power to define the tax base, the tax rates, or any tax reliefs. Without these taxing powers, the tax revenues, whether from shared taxes or own-source taxes, are *functionally* equivalent to intergovernmental transfers from a higher-level government (Blöchliger and King, 2007[10]).

One of the primary goals of the OECD's measure of tax autonomy is to supplement existing revenue statistics by allowing analysts to assess SCG revenues in terms of the tax autonomy of the governments raising that revenue. Combining data on tax autonomy with statistics on the share of tax revenue raised by local government provides a comprehensive picture of the overall taxing power of local governments. By repeating the analysis of tax autonomy on a regular basis, it is possible to explore trends in the taxing power of SCGs, and to identify countries that are enhancing fiscal decentralisation by removing restrictions on subnational taxing power.

A complete picture of the fiscal autonomy of sub-central governments also requires an assessment of expenditure assignments among levels of government and an evaluation of the spending autonomy of sub-central governments. Over the past decade, the OECD has initiated both conceptual and empirical research on the spending power of sub-central governments (Bach, Blöchliger and Wallau, 2009[11]; OECD/KIPF, 2016[12]; Dougherty and Phillips, 2019[13]; Kantorowicz and van Grieken, 2019[14]). This line of research is ongoing within the Fiscal Network, and is discussed further in Chapter 4 of this volume.

Measuring tax autonomy

The first effort by the OECD to measure the tax autonomy of SCGs used data for the year 1995 from a survey of 19 OECD countries (OECD, 1999[15]). The taxonomy that the OECD developed to assess the degree of tax autonomy was modified when the analysis was updated using data from 2002 and the sample became larger (Blöchliger and King, 2007[10]). The modified taxonomy (discussed below in Section "The use of the OECD's tax autonomy analysis" has been used in all the updates since then.[2]

The OECD taxonomy is displayed in Table 3.1. The characterisation of tax systems in terms of tax autonomy is inherently complex. Within any given country, there are many tax attributes, and numerous institutional and administrative details that help define the taxing power of SCGs. In developing the taxing power taxonomy, the OECD has tried to capture the essence of tax autonomy in a handful of indicator codes.

The codes listed in Table 3.1 are arranged in decreasing order of tax autonomy. The "a" codes characterise taxes for which SCGs can determine tax revenue by setting tax rates and defining other attributes of the tax, such as exemptions and credits that influence the amount of tax revenue generated by the tax. The "b" codes are assigned in cases where higher level governments control tax attributes, such as the definition of tax bases and tax credits, but state and local governments have complete, or partial freedom to set tax rates. The "c" code applies when SCGs have no control over tax bases or rates, but are given freedom to set tax credits, exemptions, or abatements, collectively referred to as tax reliefs. The c code is infrequently used.

Table 3.1. OECD Taxonomy of Taxing Power

Category	Code	Description
A: Autonomy over tax rates and reliefs	a1	The recipient SCG sets the tax rate and any tax reliefs without needing to consult a higher-level government.
	a2	The recipient SCG sets the rate and any reliefs after consulting a higher-level government.
B: Autonomy over tax rates	b1	The recipient SCG sets the tax rate, and a higher-level government does not set upper or lower limits on the rate chosen.
	b2	The recipient SCG sets the tax rate, and a higher-level government does sets upper and/or lower limits on the rate chosen.
	b3	The recipient SCG sets the tax rate, and a higher-level government sets limits on the annual revenue or levy increase.
C: Autonomy over tax reliefs	c	The recipient SCG sets tax reliefs.
D: Tax sharing arrangements	d1	There is a tax-sharing arrangement in which the SCGs determine the revenue split.
	d2	There is a tax-sharing arrangement in which the revenue split can be changed only with the consent of SCGs.
	d3	There is a tax-sharing arrangement in which the revenue split is determined in legislation, and where it may be changed unilaterally by a higher-level government, but less frequently than once a year.
	d4	There is a tax-sharing arrangement in which the revenue split is determined annually by a higher-level government.
E: Central government sets tax rates and reliefs	e	The recipient SCG has no control over either the tax rate or any tax reliefs.
F: None of the above categories	f	None of the above categories a, b, c, d or e applies.

Note: SCG refers to sub-central government. The taxonomy is applied separately to state/regional and local governments.
Source: Fiscal Decentralisation database.

The “d” codes are used for various types of *tax sharing* schemes. Under a tax-sharing scheme, tax revenue is levied and collected by a higher-level government, and a specified share of the revenue collected is shared with SCGs. Under the definition of tax sharing used as part of the OECD tax autonomy taxonomy, the determination of this share may have an explicitly equalising function though it is not required to.[3]

The “e” code is for taxes over which SCGs have no autonomy. The “f” code is only used when none of the other codes are appropriate. Fortunately, the f code is rarely used.

Codes are assigned to tax revenues based on the survey responses of OECD member countries, with the most recent survey having been conducted in 2020. The information for each country is summarised by calculating the share of total tax revenue by level of government (state or local) that is assigned to each tax autonomy code (see Table 3.3).

The use of the OECD’s tax autonomy analysis

Since 1999, scholars have used the results of the OECD tax autonomy analysis in analytic studies of various aspects of SCG finance. The basic argument made by these papers is that in assessing fiscal decentralisation, it is very important to consider the extent to which SCGs have control over their own tax instruments. Table 3.2 summarises the most relevant literature about the relationship between fiscal decentralisation and economic growth, highlighting the use of OECD tax autonomy data.

Table 3.2. Tax autonomy literature

Highlights of the literature on tax autonomy, frequently incorporating OECD data or analysis

	Key findings
Ebel and Yilmaz (2003[4])	Macroeconomic impacts of fiscal decentralisation are highly sensitive to the way decentralisation is measured
Thornton (2007[16])	Fiscal decentralisation in OECD countries is overstated in studies that do not take account of tax power. When measured using only revenues over which subnational governments have full autonomy, there is no statistically significant relationship between decentralisation and growth.
Meloche, Vaillancourt, and Yilmaz (2004[17])	Fiscal decentralisation, as measured by the degree of revenue autonomy of subnational governments, is positively related to the rate of economic growth.
Stegarescu (2005[5])	Most previous studies overestimated the extent of fiscal decentralisation.
Kim, Lotz, and Mau (2015[18])	Discusses tax autonomy in several OECD countries (Book).
Baskaran and Feld (2012[7])	In regression analysis that takes account of tax autonomy, fiscal decentralisation has a negative impact on economic growth. However, accounting for endogeneity, the apparent negative relationship is unlikely to be robust.
OECD/KIPF (2018[19])	Empirical studies carried out by the OECD that take account of potential endogeneity issues have found more robust positive results for revenue decentralisation, although the marginal effect of further decentralisation is estimated to vary by country to a large degree, reflecting the degree of *de facto* decentralisation of revenue responsibilities (Book).
Blöchliger et al. (2013[20])	Tax autonomy may drive public investment, and there is evidence of threshold effects.
Bartolini et al. (2016[21]); Blöchliger et al. (2016[22])	Devolving tax autonomy helps to reduce regional inequities, particularly when combined with a reduced vertical fiscal imbalance.
Stossberg and Blöchliger (2017[23])	Increasing tax autonomy disproportionately benefits the middle class.
Vermeulen (2018[24])	Analyses the role of local taxation in the funding of public education.
Baskaran (2012[25])	There is a non-linear relationship between subnational tax autonomy and the size of deficits. In countries with low levels of tax autonomy, an increase in autonomy results in smaller deficits. However, above some level of tax autonomy, additional autonomy leads to larger deficits.
Van Rompuy (2016[26])	Subnational tax autonomy enhances the fiscal sustainability of subnational governments
Lastra-Anadón and Mukherjee (2019[27])	Greater subnational tax autonomy has a positive effect on educational outcomes.

Tax autonomy in OECD member countries: Latest update

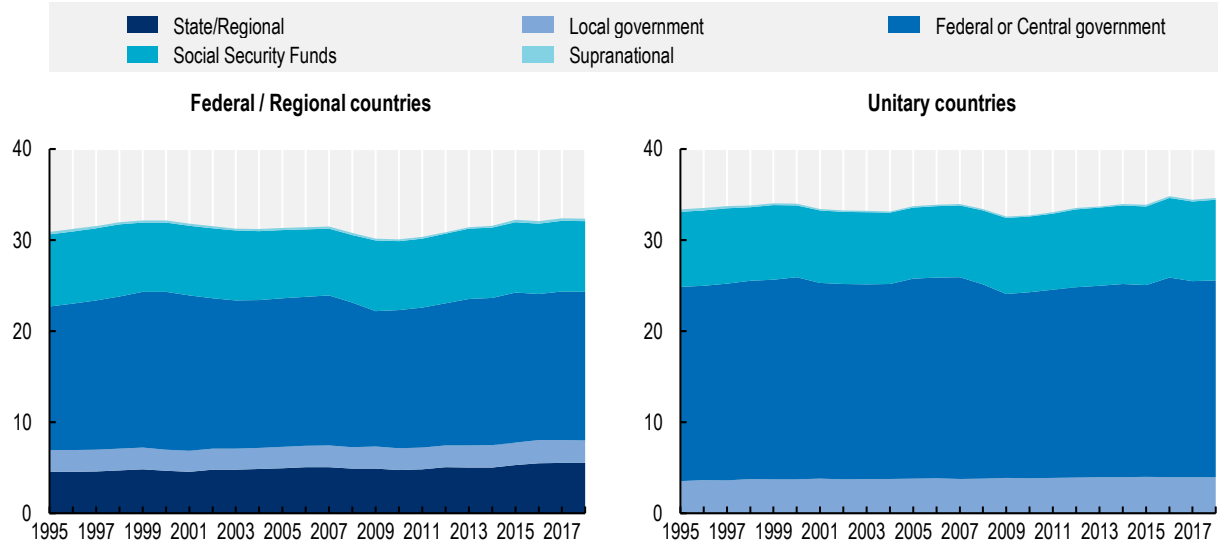
Trends in sub-central government tax revenues

Sub-central governments raise a significant share of total tax revenues in OECD countries, in both unitary and federal systems and have also been relatively stable across time as a share of GDP (Figure 3.2), in contrast with central government revenues, which show greater fluctuation across time.

In OECD countries with a federal structure,[4] approximately one-quarter of total tax revenues were received by subnational governments between 1995 and 2018. Approximately two-thirds of these were received by state governments and one-third by local governments. Another quarter of revenues were received by social security funds, with the remaining half of total revenues was received by central governments. Across the periods, local revenues have remained steady at between 2.3 and 2.5% of GDP, while state revenues have increased from 4.5% of GDP to 5.5% of GDP (Figure 3.2, left-hand panel).

The share of subnational revenue in OECD countries with a unitary structure is smaller, on average, than in federal countries: local government revenues amount to between 3.6% and 4.1% of GDP across the period, showing a slow and relatively steady increase across the period. Federal taxes accounted for 21% of GDP.

Figure 3.2. Average shares of tax revenue by government sector in OECD countries (% of GDP)

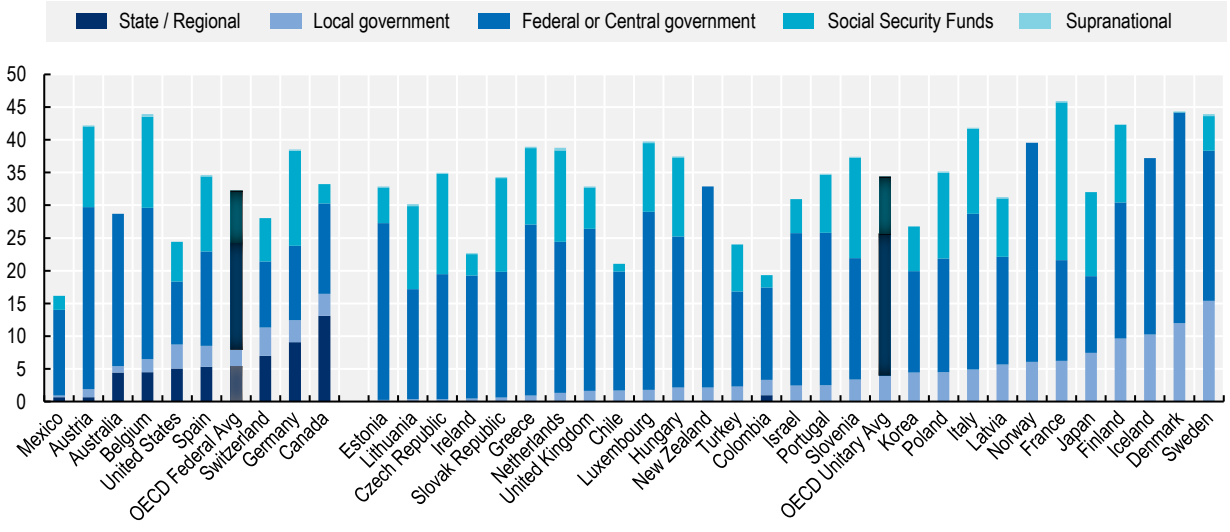


Source: OECD Revenue Statistics.

StatLink https://stat.link/9gdx01

These averages conceal much inter-country variation within each group. Among OECD countries with a federal structure, subnational governments received between 0.9% and 16.5% of GDP (Mexico and Canada, respectively) in 2018 (Figure 3.3). Among unitary countries, local governments received revenues ranging from less than 1% of GDP in countries like Estonia and Greece for example to over 10% of GDP in Iceland, Denmark and Sweden. Those last two countries raise the highest amount of revenue from subnational governments (15.4% and 12% of GDP, respectively).

Figure 3.3. Revenue shares by government sector in OECD countries, 2018 (% of GDP)

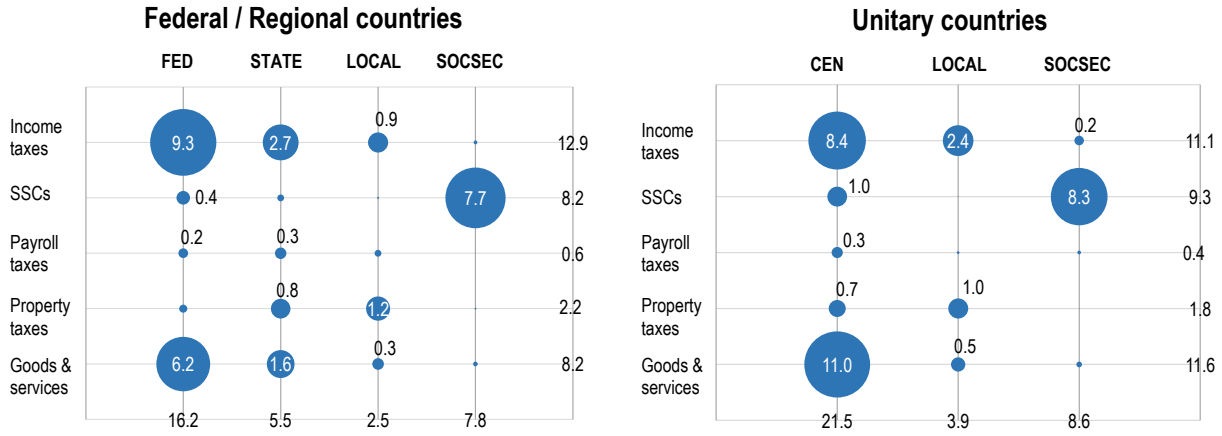


Note: The OECD averages used in this figure are unweighted averages. Countries grouped on the left are Federal or Regional, while those grouped on the right are Unitary.
Source: OECD Revenue Statistics.

StatLink https://stat.link/gon2vx

Predominant sources of subnational revenues in OECD countries include income taxation (both personal and corporate), payroll taxes, property taxes, and taxes on goods and services, as shown in Figure 3.4. In 2018, subnational governments in federal countries raised the largest share of their revenues from income taxes (Figure 3.4, left-hand panel) and taxes on property formed the largest source of local government revenues. In unitary countries, local governments received the greatest share of their revenues from income taxes (2.4% of GDP in 2018, on average). In neither group of countries do subnational governments receive social security contributions, which are almost exclusively collected by social security funds.

Figure 3.4. Shares of revenue by government sector and tax category, 2018 (% of GDP)



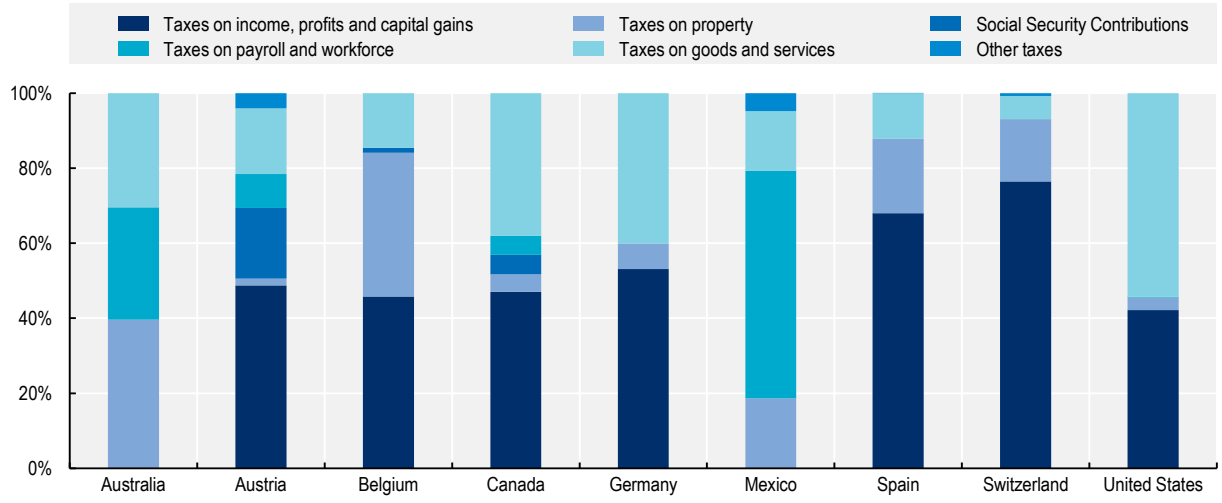
Notes: CEN/FED = Central or Federal government; STATE = State or regional government (TL2 level); LOCAL = Municipal level; SOCSEC = Social Security funds.
Source: OECD Revenue Statistics.

StatLink https://stat.link/ysou1j

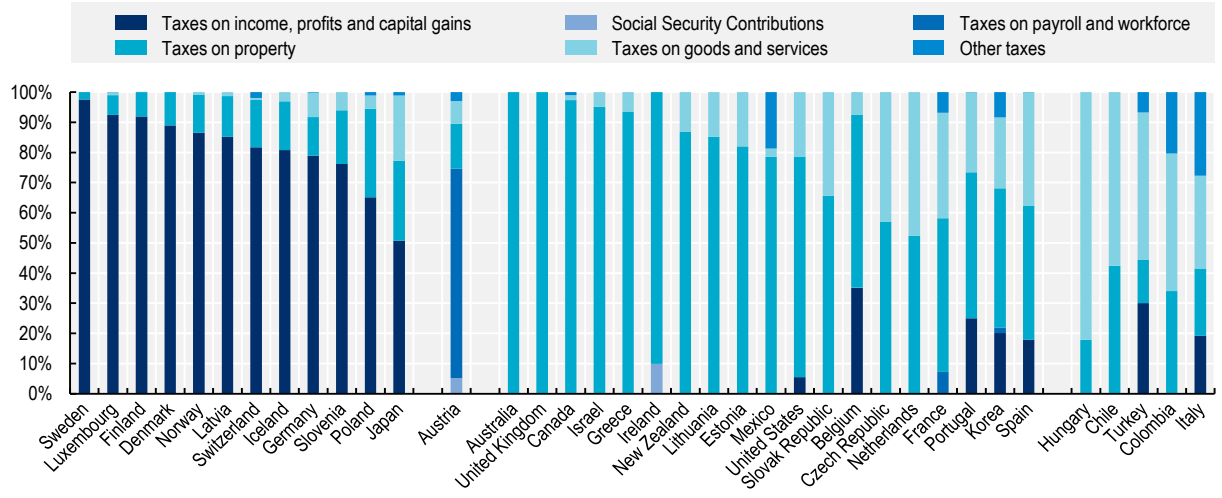
Figure 3.5 shows a breakdown of subnational tax revenues for each country in 2018, divided into revenues received by state governments (upper panel, federal countries only) and local governments (lower panel). Taxes on income, profits and capital gains were the most significant source of state revenues in five countries even if taxes revenues from property taxes and taxes on goods and services can be considerable. At the local level, taxes on property formed the largest share of subnational revenues in half of the OECD in 2018. Income taxes were the predominant source of local government revenues in 12 countries.

Figure 3.5. Shares of revenue by tax category, 2018 (% of subnational revenues)

Panel A. State governments (federal countries only)



Panel B. Local governments (federal & unitary countries) – by income, SSC, property and G&S taxes



Source: OECD Revenue Statistics.

StatLink https://stat.link/0vq8rk

Taxing power of state and local governments in the 2020 exercise

The most recent tax autonomy survey was conducted in 2020. The results of the survey are presented in Table 3.3 and are based on final revenue data for 2018.[5] The first two columns provide data on state and local government revenue as a percentage of GDP and as a percentage of total government tax revenue, respectively.

On average, state or regional governments have a higher degree of tax autonomy than local governments.

Table 3.3. Taxing power of sub-central governments in OECD member countries, 2018

	Sub-central tax revenue		As share of sub-central tax revenues												
	As % of GDP	As % of total tax revenue	Discretion on rates and reliefs		Discretion on rates			Discretion on reliefs	Tax sharing arrangements				Rates and reliefs set by CG	Other	Total
			Full	Restricted	Full	Within upper/lower bounds	Within revenue limits		Revenue split set by SCG	Revenue split set with SCG consent	Revenue split set by CG, pluriannual	Revenue split set by CG, annual			
			(a1)	(a2)	(b1)	(b2)	(b3)	(c)	(d1)	(d2)	(d3)	(d4)	(e)	(f)	
Australia	5.4	18.8													
States	4.4	15.5	100	-	-	-	-	-	-	-	-	-	-	-	100
Local	1.0	3.4	100	-	-	-	-	-	-	-	-	-	-	-	100
Austria	1.9	4.5													
Länder	0.7	1.6	29.3	-	-	-	-	-	-	-	9.2	-	48.7	12.8	100
Local	1.3	3.0	8.9	-	-	14.8	-	-	-	-	1.1	-	68.1	7.1	100
Belgium	6.5	14.8													
States	4.5	10.2	52.1	-	45.8	-	-	-	-	0.9	-	-	1.2	-	100
Local	2.0	4.6	7.5	-	92.3	-	-	-	-	-	-	-	0.1	-	100
Brazil[1]	10.3	31.1													
States	8.2	24.9	7.3	-	-	86.1	-	-	-	-	-	-	-	6.5	100
Local	2.1	6.2	8.1	-	-	79.2	-	-	-	-	-	-	-	12.7	100
Canada	16.5	49.6													
Provinces	13.1	39.5	79.9	-	-	-	-	-	-	-	-	-	-	20.1	100
Local	3.3	10.0	1.4	-	95.5	-	-	-	-	-	-	-	1.0	2.1	100
Chile	1.7	7.9													
Local	1.7	7.9	-	-	15.3	25.3	-	-	-	-	59.3	-	-	0.1	100
Czech Republic	0.4	1.0													
Local	0.4	1.0	-	-	-	99.9	-	-	-	-	0.1	-	-	-	100

Denmark	12.0	27.0													
Local	12.0	27.0	-	-	89.0	11.0	-	-	-	-	-	-	-	-	100
Estonia	0.3	0.8													
Local	0.3	0.8	10.9	-	-	82.0	-	-	-	-	7.1	-	-	-	100
Finland	9.6	22.7													
Local	9.6	22.7	-	-	83.6	8.1	-	-	-	-	-	8.3	-	0.0	100
France	6.2	13.5													
Local	6.2	13.5	42.2	-	5.6	3.3	-	0.2	0.0	2.9	-	13.3	21.2	11.3	100
Germany	12.4	32.2													
Länder	9.1	23.6	-	-	4.7	-	-	-	-	89.5	-	-	-	5.8	100
Local	3.3	8.6	-	-	12.8	42.1	-	-	-	43.6	-	-	-	1.5	100
Greece	0.9	2.4													
Local	0.9	2.4	-	-	-	93.8	-	-	-	-	-	-	6.2	-	100
Hungary	2.2	5.8													
Local	2.2	5.8	0.1	-	-	96.4	-	-	-	-	-	3.5	0.1	0.0	100
Iceland	10.3	27.6													
Local	10.3	27.6	-	-	-	96.9	-	-	-	-	-	-	-	3.1	100
Ireland	0.5	2.1													
Local	0.5	2.1	-	-	-	90.1	-	-	-	-	-	-	9.9	-	100
Israel	2.4	7.9													
Local	2.4	7.9	-	4.9	-	-	-	-	-	-	-	-	95.1	-	100
Italy	4.9	11.7													
Local	4.9	11.7	14.3	-	-	52.3	-	-	-	32.5	0.6	-	-	0.3	100
Japan	7.4	23.2													
Local	7.4	23.2	-	0.2	55.2	26.6	-	-	-	-	-	-	18.0	-	100
Korea	4.5	16.6													
Local	4.5	16.6	-	-	-	85.2	-	-	-	-	-	-	14.2	0.6	100
Latvia	5.7	18.1													
Local	5.7	18.1	0.0	-	-	13.6	-	-	-	-	1.3	85.1	0.0	-	100
Lithuania	0.4	1.2													
Local	0.4	1.2	10.6	-	-	84.0	-	1.1	-	-	-	-	4.3	-	100
Luxembourg	1.8	4.5													
Local	1.8	4.5	-	-	7.0	92.7	-	-	-	-	0.4	-	-	-	100

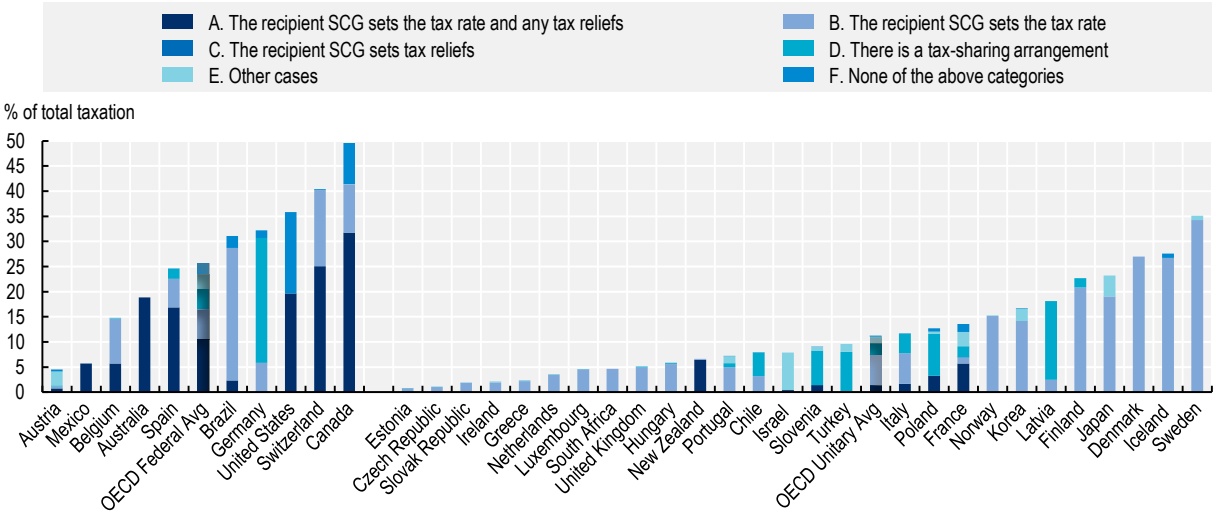
Mexico	0.9	5.7													
States	0.7	4.0	99.9	-	0.1	-	-	-	-	-	-	-	-	-	100
Local	0.3	1.6	100	-	-	-	-	-	-	-	-	-	-	-	100
Netherlands	1.4	3.5													
Local	1.4	3.5	-	-	68.0	15.7	15.5	-	-	-	-	-	-	0.7	100
New Zealand	2.2	6.6													
Local	2.2	6.6	97.1	-	-	2.9	-	-	-	-	-	-	-	-	100
Norway	6.1	15.3													
Local	6.1	15.3	-	-	-	99.2	-	-	-	-	-	-	0.8	-	100
Poland	4.5	12.7													
Local	4.5	12.7	-	-	-	25.6	-	-	-	-	65.1	-	3.7	5.5	100
Portugal	2.5	7.2													
Local	2.5	7.2	-	-	-	68.6	-	-	-	-	11.7	-	19.0	0.7	100
Slovak Republic	0.6	1.8													
Local	0.6	1.8	8.9	-	-	90.0	-	-	-	-	-	-	-	1.1	100
Slovenia	3.4	9.0													
Local	3.4	9.0	15.7	-	-	-	-	-	-	-	-	75.9	8.2	0.1	100
South Africa	1.4	4.6													
Local	1.4	4.6	-	-	-	-	100	-	-	-	-	-	-	-	100
Spain	8.5	24.6													
Regions	5.3	15.3	94.4	-	0.1	2.9	-	-	-	2.6	-	-	0.0	0.0	100
Local	3.2	9.3	26.3	-	-	56.2	-	-	-	16.7	-	-	0.6	0.1	100
Sweden	15.4	35.1													
Local	15.4	35.1	-	-	97.6	-	-	-	-	-	-	-	2.4	-	100
Switzerland	11.3	40.4													
States	7.0	24.9	99.2	-	-	-	-	-	-	-	-	-	-	0.8	100
Local	4.3	15.5	2.4	-	-	97.6	-	-	-	-	-	-	-	0.0	100
Turkey	2.3	9.6													
Local	2.3	9.6	-	-	-	-	-	-	-	-	83.2	-	16.8	-	100
United Kingdom	1.7	5.1													
Local	1.7	5.1	-	-	95.8	0.8	-	-	-	-	-	2.6	-	0.8	100

United States	8.7	35.8													
States	5.0	20.6	95.3	-	-	-	-	-	-	-	-	-	-	4.7	100
Local[2]	3.7	15.2	-	-	-	-	-	-	-	-	-	-	-	100	100
Unweighted average															
Sub-central governments[3]	5.1	14.8													
States[4]	5.8	18.0	65.7	-	5.1	8.9	-	-	-	9.3	0.9	-	5.0	5.1	100
Local	3.6	10.1	12.0	0.1	18.9	40.9	3.0	0.0	0.0	2.5	6.1	5.0	7.6	3.9	100

1. The results for Brazil show the tax autonomy indicators based on the revenues attributed to each level of government in Revenue Statistics in Latin America and the Caribbean, i.e. before constitutional grants between levels of government were taken into account.
2. Local governments in the United States have a wide variety of taxing powers but it is not possible to identify the share of each.
3. This unweighted average applies to the sub-central revenue shares of all countries in this table.
4. This unweighted average applies only to the 10 countries reporting State or Regional data. Spain is considered as a regional country for the purpose of the tax autonomy indicators.
Source: OECD Fiscal Decentralisation database.

Figure 3.6. Tax autonomy in OECD countries

(subnational taxes as % of total taxation)



Note: Federal and regional countries on the left; unitary countries on the right.
Source: OECD Fiscal Decentralisation database.

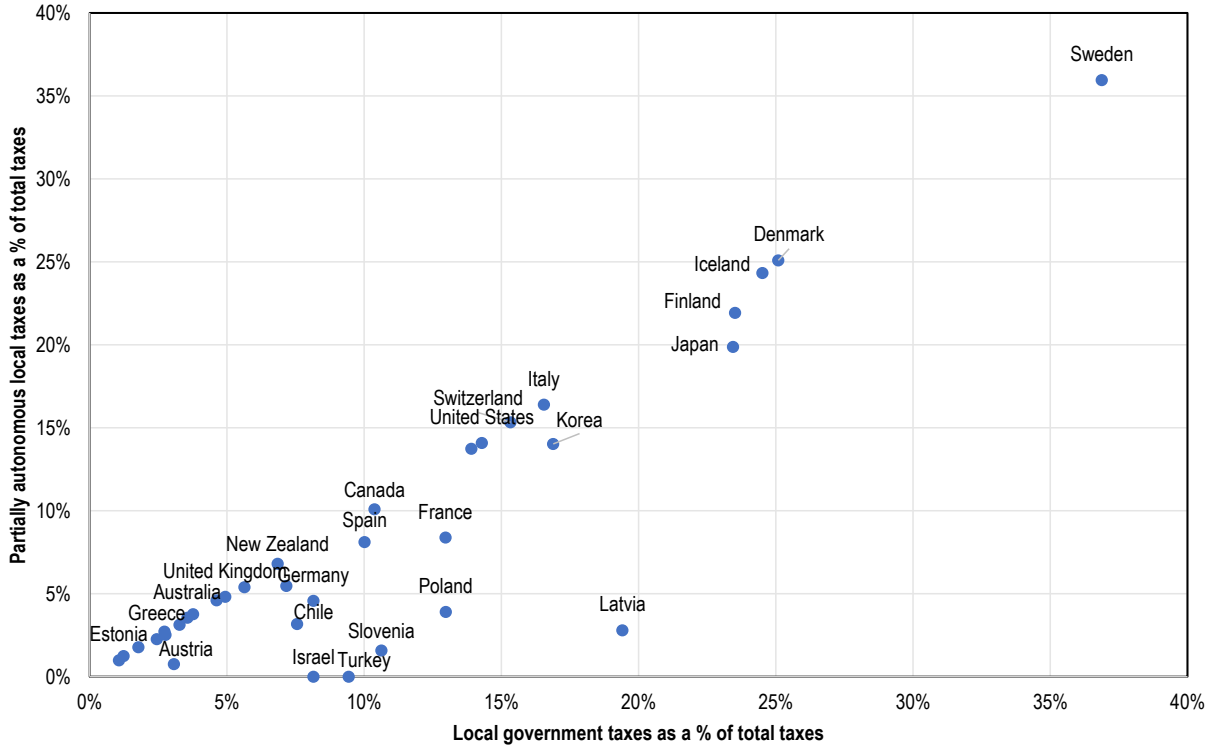
StatLink https://stat.link/fembu1

Of the 38 OECD countries listed in Table 3.3, only local governments in Australia, Mexico and New Zealand have full tax autonomy (97% or more of tax revenue classified as a1 or a2). However, local governments in an additional 18 countries have a substantial amount of tax autonomy, with at least 80% of their tax revenue classified as either b1, b2 or b3. In contrast, local governments in both Austria and Israel have very limited tax autonomy. Local governments in five other countries rely on shared tax revenue over which they have no control (d3 or d4) for over half of their local tax revenue.

As mentioned above, the share of total tax revenue that is raised by SCGs has been criticised as a measure of fiscal decentralisation because it takes no account of the tax autonomy of SCGs. Blöchliger and King (2007[10]) propose as a "composite indicator of fiscal autonomy" the product of the share of SCG revenue that is considered as autonomous and the SCG share of total tax revenue. In their paper, Blöchliger and King define autonomous taxes as those over which SCGs have "discretion over rates and reliefs." They operationalise this definition as tax revenue coded as a1, a2, b1, b2 or b3. Because tax revenues coded as b2 are subject to some restrictions imposed by higher-level governments, we refer to the Blöchliger-King definition as *partial tax autonomy*.

Figure 3.7 shows a scatter plot of Blöchliger and King's composite indicator of fiscal autonomy applied to local governments using the 2018 tax autonomy data presented in Table 3.3. Countries are ordered on the horizontal axis according to their share of total tax revenue raised by local governments. The vertical axis represents the value of each country's partial tax autonomy composite index. Countries that are displayed below the diagonal axis (not shown) have limited tax autonomy. For example, in Latvia, where 18.1% of total tax revenue is raised by local governments, but only 13.6% of that amount is considered partially autonomous, the composite index has a value of 2.5% (13.6% of 18.1%).

Figure 3.7. Partially autonomous local taxes and total local taxes as a % of total taxes, 2018

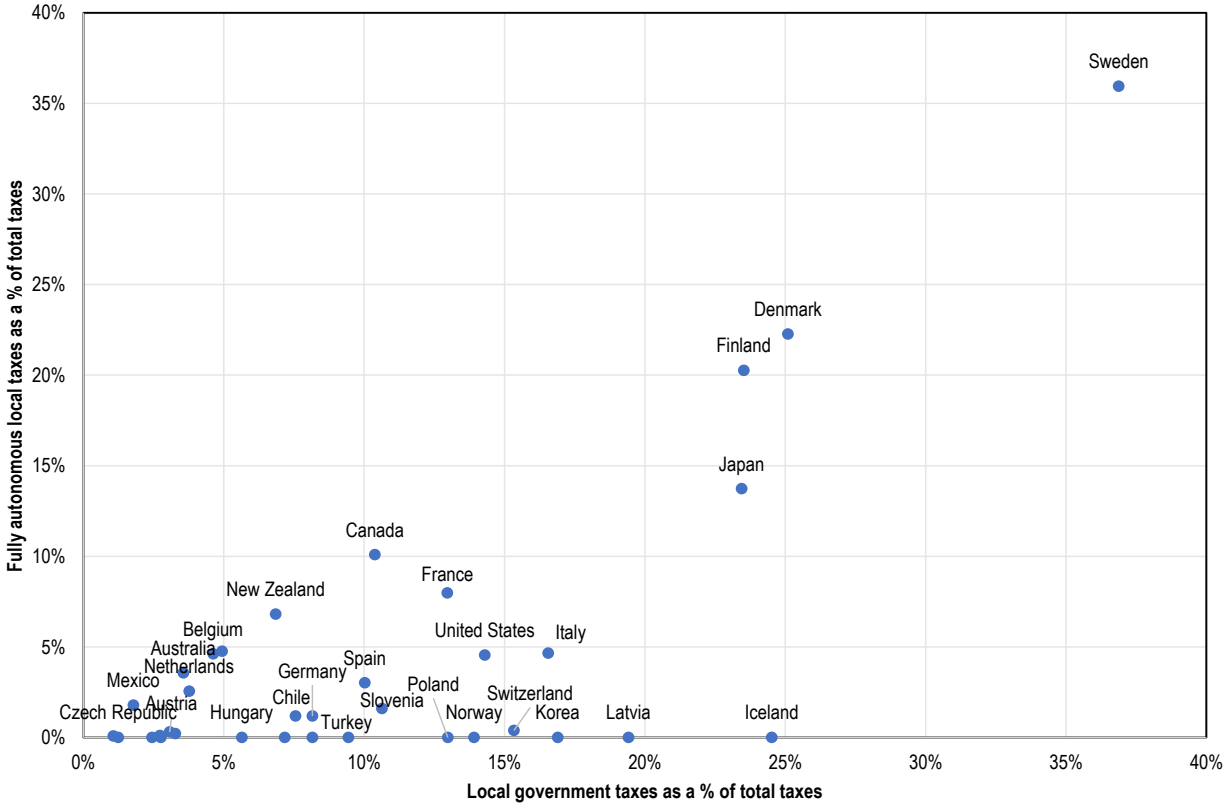


Note: Local taxes that are coded a1, a2, b1, b2 or b3 are considered partially autonomous (see Table 3.3). For legibility, some country labels have been suppressed.
Source: Own calculations.

StatLink https://stat.link/zsufa9

Figure 3.8 is based on *fully autonomous* local government taxes, which are defined as taxes coded as a1, a2, or b1 that represent the highest amount of tax discretion for subnational governments. As on average, 41% of local government taxes in OECD countries are classified as b2, its exclusion from the definition of tax autonomy is the reason why many fewer countries are on or close to the diagonal and many more countries have a composite index of tax autonomy equal to zero. Note also that three Nordic countries, Denmark, Finland and Sweden, raise a very high proportion of total taxes through local government taxation and at the same time retain full autonomy over their local tax systems.

Figure 3.8. Fully autonomous local taxes and total local taxes as a % of total taxes, 2018



Note: Local taxes that are coded a1, a2, or b1 are considered fully autonomous (see Table 3.3). For legibility, some country labels have been suppressed.
Source: Own calculations.

StatLink https://stat.link/k1d6n3

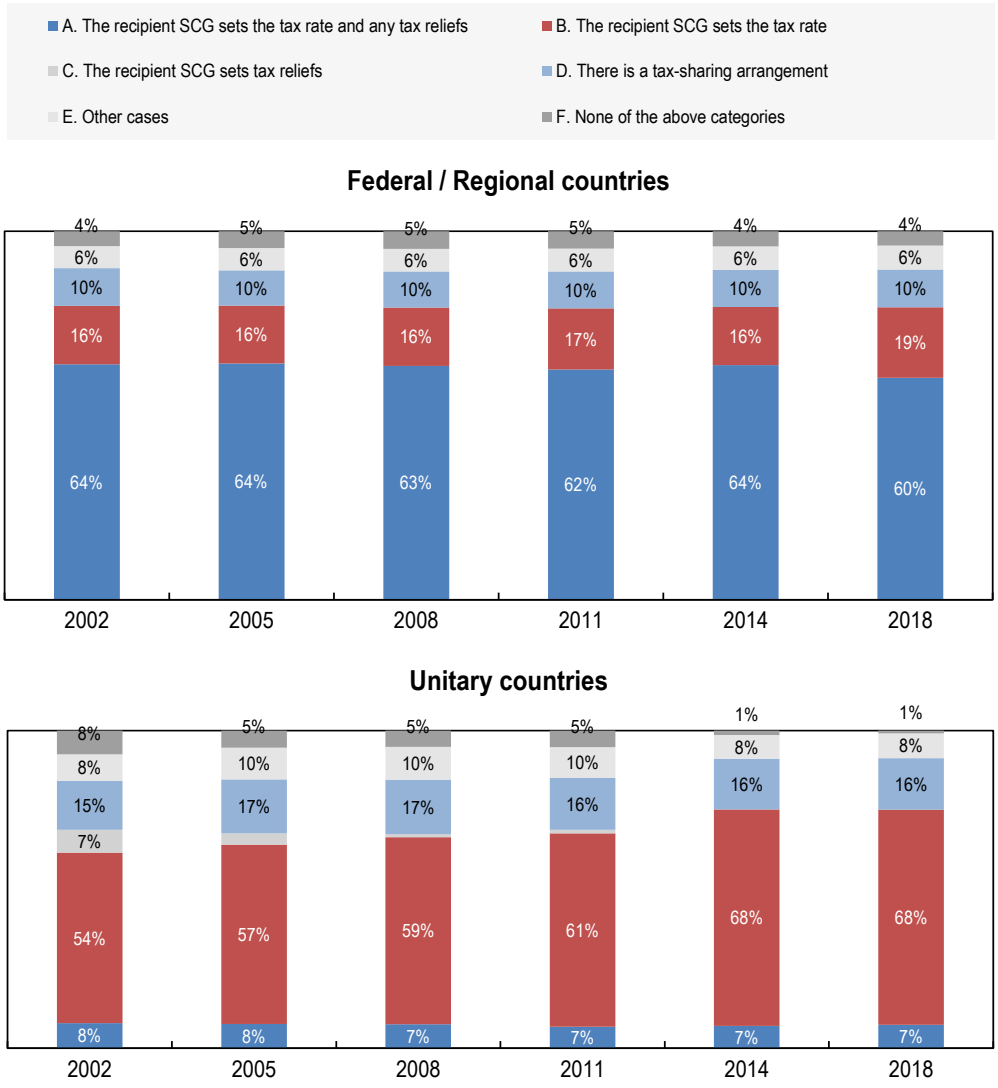
Changes in tax autonomy 2000 to 2018

Changes in the tax autonomy of SCGs in OECD countries can occur for two reasons. Because some taxes are much more sensitive to economic activity than other taxes, over the course of a typical business cycle the mix of SCG taxes is likely to change. Income tax revenues tend to vary substantially between periods of economic strength and economic weakness, while property tax revenues tend to be much more stable over the course of a business cycle. Policy changes and decentralisation reforms can also affect tax autonomy. SCG tax autonomy can change over time if higher-level governments impose new limitations on the ability of lower-level governments to change rates or relief, or if higher-level governments choose to remove existing limits.

Information on the tax autonomy of SCGs in OECD countries is available on a consistent basis from 2000 onwards. Figure 3.9 summarises the results of the five OECD tax autonomy analyses conducted between 2002 and 2018. The data are presented separately for federal and unitary countries.

Figure 3.9. Change in tax autonomy for federal and unitary countries, 2000-2018

(% of total subnational tax revenues)



Note: Calculations based on available data.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/xmkgps

There has been little change in the tax autonomy of federal countries between 2000 and 2018. In 2000, local governments in the unitary countries had on average the ability to set the rates (but not reliefs) for 49% of subnational tax revenues. By 2018, this share had risen to 68% of subnational revenues. This increase is attributable in part to a decline in the ability to set tax reliefs for local government and the decline of tax not corresponding to the five tax categories.

US local government tax autonomy

Because of the heterogeneity that characterises the US fiscal system, assessing local government tax autonomy requires a separate analysis of each state's tax system. This section reports on the results of a recent analysis of US local government tax autonomy. Additional methodological details and results can be found in Reschovsky (2019[28]).

The only detailed and comprehensive source of data on the tax revenue of local governments is the annual *State and Local Government Finances* series.[6] Those data, however, are provided on a fiscal year rather than the calendar year basis used for the OECD revenue statistics. Conversion from fiscal to calendar year is complicated by the fact that there exists no consistent definition of local government fiscal years and that some local governments used fiscal years ending in *every* month of the year.

To construct the calendar year 2014 dataset used in this paper, requires the use of Census Bureau data from fiscal years 2014, 2015, and 2016. The conversion requires three steps. First, for each tax in each state, the share of tax revenue collected using each definition of fiscal year found in that state is calculated. The second step involves combining revenue data from different Census fiscal years, with the way these data are combined depending upon the definitions of fiscal years used by local governments. A graphical representation of this process can be found in Appendix A of Reschovsky (2019[28]). The final step involves taking a weighted average of the local fiscal year-specific revenue estimates calculated in step two using as weights the revenue shares calculated in step 1. The result is a calendar year 2014 tax revenue estimate for each local government tax used in each state.[7]

As shown in Table 3.4, in calendar year 2014 the tax revenue of US local governments totalled USD 645 billion.[8] The table lists each tax used, its OECD tax classification code, and the amount of revenue from each tax and the number of states in which local governments used each tax.

Table 3.4. Local government tax revenue in the United States, calendar year 2014

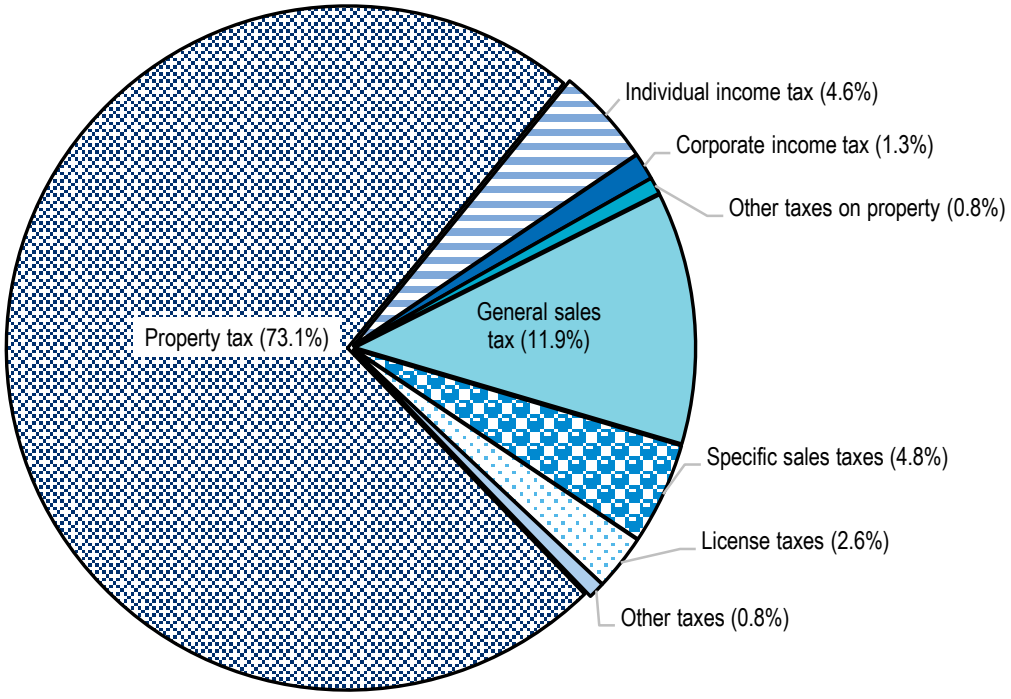
OECD tax classification codes	Type of tax	Local government tax revenue (in millions of US dollars)	Number of States utilising tax
1000	Taxes on income, profits and capital gains	39.430	14
1100	of individuals	31.057	14
1210	of corporation profits	8.372	8
4000	Taxes on Property	470.717	51
4100	Recurrent taxes on immovable property	464.241	51
4300	Estate, inheritance and gift taxes	168	5
4400	Taxes on financial and capital transactions	6 307 771	35
5000	Taxes on goods and services	130 004 392	51
5100	Taxes on production, sale, transfer, etc	112 122 747	50
5112	General sales taxes	81 001 350	35
5120	Taxes on specific goods and services	31 121 397	49
5121	Excise taxes	16 882 874	45
5121, 10	Alcoholic beverage	605 328	16
5121, 11	Tobacco products	435 605	10
5121, 12	Public utilities	14 500 425	45
5121, 13	Motor fuel	1 341 516	10
5126	Taxes on specific services	1 608 345	28
5126, L1	Amusements	680 446	22
5126, L7	Insurance premiums	901 101	6
5126, L2	Pari-mutuals	26 798	11
5128	Other taxes on specific services	12 630 178	47
5200	Taxes on use of goods and perform activities	17 881 645	51
5210	Recurrent taxes	17 803 820	51
5211 & 5212	Motor vehicle licenses	1 909 781	36
5213, L6	Corporation licenses	48 306	3
5213, L7	Alcoholic beverage license	193 470	36
5213, L9	Amusements license	113 584	32

OECD tax classification codes	Type of tax	Local government tax revenue (in millions of US dollars)	Number of States utilising tax
5213, L8	Public utility licenses	479 209	32
5213, L10	Occupation and business license NEC	6 708 486	50
5213, L12	Other license taxes	8 350 984	51
5220	Severance taxes (non-recurrent)	77 825	11
6000	Other taxes, not elsewhere classified	4 529 483	50
	Total taxes	644 681 893	51

Source: Calculations using data from the US Census Bureau, Annual State and Local Government Finances, fiscal years 2014, 2015 and 2016.

The property tax is used in all 50 states plus the District of Columbia. At least some selective sales taxes (sometimes referred to as excise taxes) and license taxes are used by local governments in most states. The use of other taxes is less widespread, with general sales tax used in 35 states, the individual income tax in 14 states, and the corporate income tax in only 8 states. Figure 3.10 uses 2014 national totals to illustrate the share of local government tax revenue coming from each tax. The figure clearly shows the dominant role played by the property tax.

Figure 3.10. Local government tax revenue by type of tax, 2014



Source: Calculations from U.S. Census Bureau, Annual State and Local Government Finances, fiscal years 2014, 2015 and 2016.

StatLink https://stat.link/am8ovw

Measuring local government tax autonomy

The central task in determining US local government tax autonomy is to apply the appropriate tax autonomy code[9] to each local government tax utilised in each state. One complication in assigning the tax autonomy codes is that within a single state, local government autonomy with regards to any given tax may differ among local governments. Our approach to this within-state heterogeneity was to assign the tax autonomy code that reflected the dominant situation (in terms of revenue).

A further complication arises with respect to the treatment of local government consumptions taxes, specifically, general and specific sales taxes. With a few exceptions, when used by local governments these taxes are "local option" taxes. This means that a state legislature authorises (provides permission) for local governments to levy a tax.

The question arises about how to classify a local consumption tax that while formally a local option tax is in fact utilised by all, or nearly all, local governments within a state. For the study of US local government tax autonomy, the decision was made to classify a local tax that is levied by 90% or more of local governments within a state at a state-mandated rate as an "e", meaning that local governments lack autonomy with regard to that tax.[10] In cases where all or nearly all local governments levy a local option tax, but at various rates, the tax was classified as "b1" or "b2" to reflect their limited tax autonomy.

After each tax in each state has been assigned a tax autonomy code, the share of tax revenue in each state associated with each code is tabulated, and then the state-specific results are summed over the 50 states and the District of Columbia. The results of these calculations are shown in the column labeled *United States* in Table 3.5. The right-hand column of the table shows the 2014 unweighted average among all OECD member countries other than the United States of the shares of local government tax revenue assigned to each tax autonomy code.

Local government tax autonomy: The United States compared with the OECD average

The results in Table 3.5 indicate that US local governments have somewhat more tax autonomy than local governments in the average OECD country. About 18% of local government tax revenue in the United States comes from taxes with the highest level of tax autonomy (codes a1 and a2) while it is 13% for the OECD countries. On the other hand, only 1% of tax revenue in the United States is derived from taxes over which local governments have no control. In the average OECD country limits to taxing power are much more common, with 11.5% of revenue coming through tax sharing arrangements imposed by central governments, and 7.8% from taxes imposed on local governments.

Table 3.5. Taxing power of US local governments and other OECD countries (2014)

Taxonomy of taxing power			% of local government tax revenue	
		OECD codes	United States	Other OECD countries
Discretion on rates and reliefs	Full	a1	7.1%	10.2%
	Restricted	a2	11.5%	2.9%
Discretion on rates	Full	b1	13.3%	20.8%
	Restricted	b2	28.4%	41.0%
	Revenue restrictions	b3	38.1%	-
Discretion on reliefs		c	0.4%	0.0%
Tax sharing arrangements	Revenue split set by local gov'ts	d1	0.0%	0.0%
	Revenue split set with local gov't consent	d2	0.0%	1.7%
	Revenue split set by states, pluriannual	d3	0.3%	8.5%
	Revenue split set by states, annually	d4	0.0%	3.0%
Rates and reliefs set by states governments		e	0.5%	7.8%
Other		f	0.0%	4.1%
Total			100.0%	100.0%

Source: For the United States: own calculations (see text). For other OECD countries: OECD Fiscal Decentralisation database.

Tax autonomy by type of tax

To better understand the US results, Table 3.6 displays the tax autonomy results separately for each tax. The taxes are organised using the OECD tax classification scheme. Because nearly three-quarters of total local government tax revenue in the United States is raised through the property tax, the taxing power associated with the property tax dominates the overall taxing power results. The data indicate that over 90% of property tax revenues are subject to some type of state government-imposed tax rate or tax revenue restriction. This in turn explains why the largest share of overall local government tax revenue is classified as b2 or b3, representing restrictions on rates or revenues. However, local governments have a considerable degree of taxing power with respect to several other taxes, such as license taxes (5200) and specific sales taxes (5100).

Table 3.6. Taxing power of local governments in the United States by type of tax, 2014

As % of local government tax revenues from each tax

		Tax revenue as a % of total local governme nt tax revenue	Discretion on rates and reliefs		Discretion on rates			Discretion on reliefs	Tax sharing arrangements				Rates and reliefs set by States	Other	Total
			Full	Restricted	Full	Restricted	Revenue Restrictions		Revenue split set by local gov'ts	Revenue split set with local gov't consent	Revenue split set by states, pluriannual	Revenue split set by states, annually			
			a1	a2	b1	b2	b3	c	d1	d2	d3	d4	e	f	
1000	Taxes on income, profits and capital gains	6.1%	6.0%	89.7%	-	4.3%	-	-	-	-	-	-	-	-	100.0%
1100	of individuals	4.8%	6.0%	88.5%	-	5.5%	-	-	-	-	-	-	-	-	100.0%
1210	of corporation profits	1.3%	5.7%	94.3%	-	-	-	-	-	-	-	-	-	-	100.0%
2000	Social security contributions	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	100.0%
3000	Taxes on payroll and workforce	0.0%	-	-	-	-	-	-	-	-	-	-	-	-	100.0%
4000	Taxes on Property	73.0%	6.6%	0.7%	17.8%	22.1%	52.1%	0.5%	0.00	0.00	0.0%	-	0.0%	-	100.0%
4100	Recurrent taxes on immovable property	72.0%	6.5%	-	18.0%	22.1%	52.9%	0.5%	-	-	-	-	-	-	100.0%
4300	Estate, inheritance and gift taxes	0.0%	29.5%	1.1%	-	-	-	-	-	-	38.5%	-	31.0%	-	100.0%

4400	Taxes on financial and capital transactions	1.0%	11.5%	55.0%	6.7%	18.7%	-	-	-	-	0.5%	-	7.6%	-	100.0%
5000	Taxes on goods and services	20.2%	9.2%	25.4%	1.4%	59.7%	-	0.4%	0.02	0.02	0.0%	-	0.0%	-	100.0%
5100	Taxes on production, sale, transfer, etc	17.4%	10.7%	13.5%	1.6%	69.2%	-	0.5%	0.02	0.03	0.0%	-	0.0%	-	100.0%
5112	General sales taxes	12.6%	11.3%	2.1%	-	82.6%	-	0.6%	-	-	2.5%	-	0.9%	-	100.0%
5120	Taxes on specific goods and services	4.8%	9.1%	43.2%	5.8%	34.3%	-	0.2%	-	-	0.1%	-	7.3%	-	100.0%
5121	Excises	2.6%	10.9%	39.5%	0.7%	37.3%	-	-	0.2%	11.4%	0.0%	-	0.0%	-	100.0%
5126	Taxes on specific services	0.2%	1.8%	60.1%	-	37.1%	-	-	0.9%	0.0%	0.0%	-	-	-	100.0%
5128	Other taxes on specific services	2.0%	0.0%	99.7%	0.0%	0.0%	-	0.0%	0.1%	0.1%	-	-	0.0%	-	100.0%
5200	Taxes on use of goods and perform activities	2.8%	0.00	99.7%	-	-	-	-	0.1%	0.1%	0.0%	-	0.0%	-	100.0%
5210	Recurrent taxes	2.8%	0.0%	100.0%	-	-	-	-	-	-	0.0%	-	0.0%	-	100.0%
5220	Non-recurrent taxes	0.0%	6.380%	40.1%	-	-	-	-	-	-	23.3%	-	30.2%	-	100.0%
6000	Other taxes	0.7%	-	100.0%	-	-	-	-	-	-	-	-	-	-	100.0%
Total		**100.0%**	**6.8%**	**11.4%**	**13.6%**	**28.2%**	**38.6%**	**0.4%**	**-**	**-**	**0.4%**	**-**	**0.6%**	**-**	**100.0%**

Source: Own calculations (see text).

By recalculating tax autonomy under the assumption that the US local governments raised tax revenue using the same mix of taxes as used by the average OECD country, local governments in the United States would have a substantially higher degree of tax autonomy than the average OECD country (Table 3.7), with nearly half of local government tax revenue now characterised as having the highest degree of tax autonomy (codes a1 or a2). Clearly, the main factor that reduces US tax autonomy is the widespread presence of limitations placed on the property tax, and the much heavier than average reliance on property taxation (73.9% in the United States compared to the OECD average of 44.7%).

Table 3.7. Taxing power of US local governments, if the United States used the same mix of taxes as the average OECD country

Taxonomy of taxing power		OECD codes	% of local government tax revenue	
			United States	Other OECD countries
Discretion on rates and reliefs	Full	a1	6.5%	10.2%
	Restricted	a2	39.9%	2.9%
Discretion on rates	Full	b1	8.0%	20.8%
	Restricted	b2	21.9%	41.0%
	Revenue Restrictions	b3	22.7%	-
Discretion on reliefs		c	0.3%	0.0%
Tax sharing arrangements	Revenue split set by local gov'ts	d1	0.3%	0.0%
	Revenue split set with local gov't consent	d2	0.5%	1.7%
	Revenue split set by states, pluriannual	d3	0.0%	8.5%
	Revenue split set by states, annually	d4	0.0%	3.0%
Rates and reliefs set by states governments		e	0.0%	7.8%
Other		f	0.0%	4.1%
Total			100.0%	100.0%

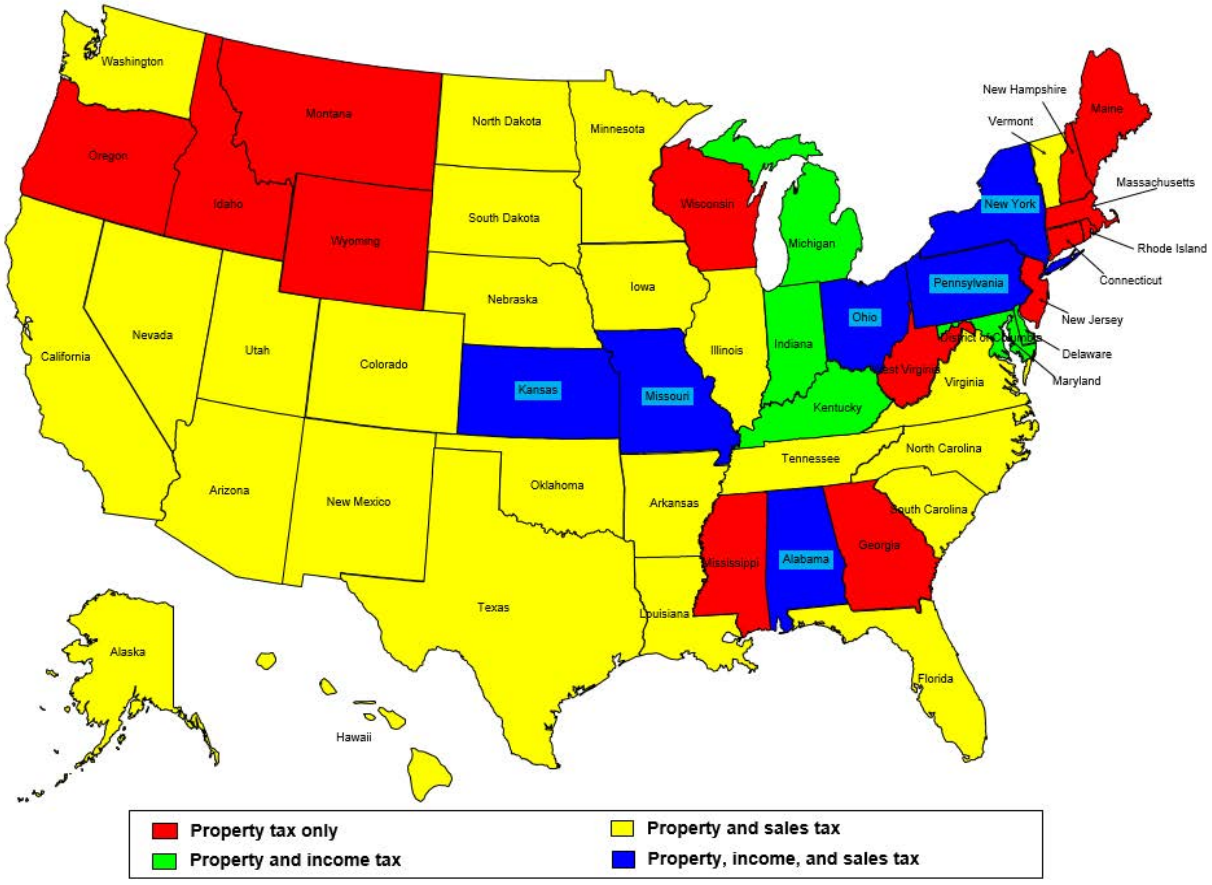
Source: For the United States: own calculations (see text). For OECD member countries: OECD, Fiscal Decentralisation database.

Tax autonomy by state

With a few exceptions, US local governments cannot use taxes that have not been explicitly authorised through state legislation.[11] Generally, once a tax has been authorised, individual local governments are free to decide whether to levy the tax. Some taxes are authorised only for certain types of local governments. In other cases, taxes can be authorised only for local governments that meet some criteria, usually defined by minimum population size. The only local government tax that is utilised by almost all local governments is the property tax. Given the tax-specific results shown in Table 3.6, the degree of local government tax autonomy in each state will depend in part on the mix of taxes used in each state.

Figure 3.11 presents a map of the United States, with states divided into four categories indicating the type of major taxes general purpose municipal governments are authorised to use.

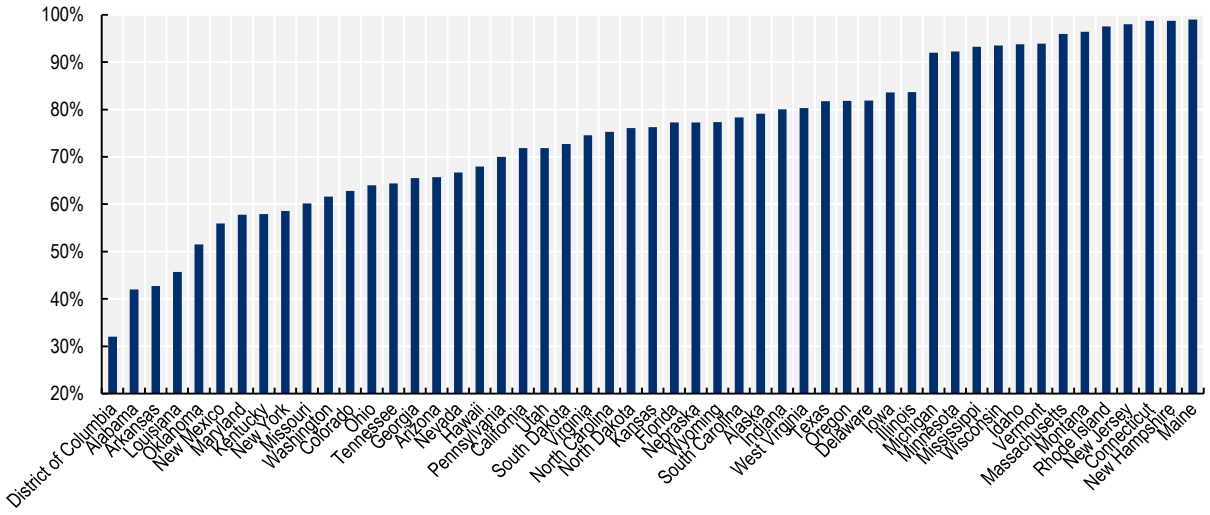
Figure 3.11. Major taxes used by municipal governments in the United States



Source: Dougherty et al. (2019[1]).

For states in which local governments are authorised to use multiple taxes, the reliance on property tax revenue depends both on the number of local governments actually using alternative taxes, and on the revenue raised from each of those taxes. Based on calendar year 2014 data, Figure 3.12 illustrates the percentage of local government tax revenue in each state and the District of Columbia coming from the property tax. It is evident that the importance of the property tax varies tremendously among states. Only 32% of the tax revenue raised by the District of Columbia comes from the property tax.. At the other extreme, in 13 states, local governments raise more than 90% of their tax revenue from the property tax.

Figure 3.12. Percentage of US local government tax revenue from the property tax, 2014



Source: Own calculations using data from U.S. Census Bureau, Annual Survey of State and Local Government Finances, fiscal years 2014, 2015 and 2016.

StatLink https://stat.link/pkr18z

A myriad of state-specific policies that explicitly limit taxing power of their local governments plays a substantial role in explaining across-state variations in taxing power. Table 3.8 illustrates these differences in tax autonomy in the 50 states and the District of Columbia. The first column of data in Table 3.8 shows, for each state, local government tax revenue as a percentage of state and local tax revenue combined. The remaining columns of Table 3.8 illustrate the wide variation in local government tax autonomy among US states. Overall, no clear regional pattern emerges, although Southern states tend to restrict the taxing power of their local governments more than many other states.

Table 3.8. Taxing power of local governments by state, 2014

As % of total local government tax revenue in each state

	Local tax revenue as % of state & local tax revenue	Discretion on rates and reliefs		Discretion on rates			Discretion on reliefs	Tax sharing arrangements	Rates and reliefs set by States	Total
		Full	Restricted	Full	Restricted	Revenue Restrictions		Revenue split set by states, pluriannual		
		a1	a2	b1	b2	b3	c	d3	e	
Alabama	36.0%	6.3%	14.3%	-	38.1%	-	41.3%	-	0.1%	100.0%
Alaska	33.2%	16.0%	2.5%	78.3%	-	-	3.2%	-	0.0%	100.0%
Arizona	40.5%	29.4%	4.1%	-	2.0%	63.6%	-	-	0.9%	100.0%
Arkansas	19.8%	7.1%	3.6%	-	89.3%	-	-	-	-	100.0%
California	34.7%	0.00	13.1%	-	86.9%	-	-	-	-	100.0%
Colorado	49.6%	30.5%	7.4%	-	0.1%	61.8%	-	-	0.1%	100.0%
Connecticut	38.8%	98.5%	1.1%	-	0.4%	-	-	-	-	100.0%
Delaware	23.0%	1.2%	10.2%	81.8%	6.9%	-	-	-	-	100.0%
D. of Columbia	100.0%	72.0%	28.0%	-	-	-	-	-	-	100.0%

Florida	45.6%	-	5.9%	-	17.8%	76.0%	-	-	0.2%	100.0%
Georgia	45.4%	-	6.6%	-	93.4%	-	-	-	-	100.0%
Hawaii	25.5%	68.1%	10.8%	3.5%	10.3%	-	-	-	7.4%	100.0%
Idaho	30.4%	2.6%	3.8%	-	-	93.6%	-	-	-	100.0%
Illinois	43.3%	7.9%	3.5%	3.7%	-	80.8%	-	-	4.1%	100.0%
Indiana	31.5%	-	1.9%	-	98.1%	-	-	-	-	100.0%
Iowa	39.0%	-	3.5%	86.4%	5.6%	-	-	0.00	4.6%	100.0%
Kansas	42.2%	4.4%	1.6%	73.0%	19.3%	-	-	-	1.6%	100.0%
Kentucky	30.3%	-	30.6%	-	69.2%	-	-	-	0.2%	100.0%
Louisiana	46.5%	-	6.3%	-	93.7%	-	-	-	-	100.0%
Maine	39.9%	0.2%	0.8%	99.0%	-	-	-	-	-	100.0%
Maryland	43.3%	-	40.1%	59.6%	0.4%	-	-	-	-	100.0%
Massachusetts	37.9%	-	4.3%	-	0.0%	95.6%	-	-	0.1%	100.0%
Michigan	32.9%	-	5.8%	-	1.6%	91.7%	-	-	0.9%	100.0%
Minnesota	24.2%	2.5%	3.4%	92.1%	1.9%	-	-	-	0.1%	100.0%
Mississippi	27.7%	-	5.8%	-	0.8%	93.5%	-	-	-	100.0%
Missouri	46.5%	3.9%	7.5%	1.7%	28.3%	58.3%	-	0.2%	0.1%	100.0%
Montana	32.4%	-	3.2%	-	96.8%	-	-	-	-	100.0%
Nebraska	46.3%	-	9.0%	-	89.8%	-	-	0.00	1.2%	100.0%
Nevada	36.6%	-	22.9%	-	77.1%	-	-	-	0.0%	100.0%
N. Hampshire	60.2%	99.1%	0.9%	-	-	-	-	-	-	100.0%
New Jersey	48.4%	-	1.3%	-	0.4%	97.9%	-	-	0.3%	100.0%
New Mexico	30.4%	-	2.1%	2.0%	95.8%	-	-	-	-	100.0%
New York	53.6%	-	24.0%	-	19.4%	56.7%	-	-	-	100.0%
North Carolina	34.9%	-	3.4%	76.5%	19.2%	-	-	-	0.9%	100.0%
North Dakota	15.0%	0.8%	4.4%	74.1%	20.6%	-	-	0.1%	-	100.0%
Ohio	44.6%	0.0%	26.1%	63.4%	10.1%	-	-	0.4%	0.00	100.0%
Oklahoma	34.3%	-	3.2%	51.7%	45.0%	-	-	-	0.0%	100.0%
Oregon	40.5%	0.2%	15.2%	-	84.5%	-	-	-	-	100.0%
Pennsylvania	43.0%	-	28.1%	69.3%	-	-	-	-	2.7%	100.0%
Rhode Island	45.6%	-	1.4%	97.6%	-	-	-	-	1.1%	100.0%
South Carolina	42.6%	-	15.9%	-	77.2%	-	6.6%	0.3%	0.00	100.0%
South Dakota	48.5%	-	4.3%	72.8%	22.9%	-	-	-	0.00	100.0%
Tennessee	41.9%	0.1%	4.1%	64.4%	31.4%	-	-	-	-	100.0%
Texas	49.4%	-	5.4%	-	12.7%	81.9%	-	-	-	100.0%
Utah	39.0%	-	3.6%	-	70.9%	-	-	18.1%	7.4%	100.0%
Vermont	15.7%	94.6%	5.4%	-	-	-	-	0.00	-	100.0%
Virginia	46.0%	83.6%	8.0%	-	-	-	-	8.0%	0.4%	100.0%
Washington	39.6%	1.8%	4.4%	-	33.9%	59.8%	-	0.1%	-	100.0%
West Virginia	26.3%	-	17.0%	-	82.6%	-	-	-	0.4%	100.0%
Wisconsin	38.0%	-	7.0%	-	-	92.8%	-	0.1%	-	100.0%
Wyoming	37.9%	-	3.9%	-	96.1%	-	-	-	-	100.0%
Total	41.7%	7.1%	11.8%	13.3%	28.4%	38.1%	0.4%	0.3%	0.5%	100.0%

Source: Own calculations (see text).

References

Alm, J. and J. Martinez-Vazquez (eds.) (2003), "On the Measurement and Impact of Fiscal Decentralization", *Public Finance in Developing and Transition Countries: Essays in Honour of Richard M. Bird*, Edward Elgar Press, Cheltenham, pp. 101-120. [4]

Bach, S., H. Blöchliger and D. Wallau (2009), "The Spending Power of Sub-Central Governments: A Pilot Study", *OECD Economics Department Working Papers*, No. 705, OECD Publishing, Paris, https://dx.doi.org/10.1787/223123781022. [11]

Bartolini, D., S. Stossberg and H. Blöchliger (2016), "Fiscal Decentralisation and Regional Disparities", *OECD Economics Department Working Papers*, No. 1330, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jlpq7v3j237-en. [21]

Baskaran, T. (2012), "Tax Decentralization and Public Deficits in OECD Countries", *The Journal of Federalism*, Vol. 42/4, pp. 688–707. [25]

Baskaran, T. and L. Feld (2012), "Fiscal Decentralization and Economic Growth in OECD Countries: Is There a Relationship?", *Public Finance Review*, Vol. 41/4, pp. 421-445, http://dx.doi.org/10.1177/1091142112463726. [7]

Bird, R. (2011), "Are There Trends in Local Finance? A Cautionary Note on Comparative Studies and Normative Models of Local Government Finance", *IMFG Papers on Municipal Finance and Governance*, No. 1, Institute of Municipal Finance and Governance, Munk School of Global Affairs, University of Toronto. [6]

Blöchliger, H. (2015), "The challenge of measuring fiscal decentralization", in *Handbook of Multilevel Finance*, Edward Elgar, http://dx.doi.org/10.4337/9780857932297.00032. [8]

Blöchliger, H., D. Bartolini and S. Stossberg (2016), "Does Fiscal Decentralisation Foster Regional Convergence?", *OECD Economic Policy Papers*, No. 17, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jlr3c1vcqmr-en. [22]

Blöchliger, H., B. Égert and K. Bonesmo Fredriksen (2013), "Fiscal Federalism and its Impact on Economic Activity, Public Investment and the Performance of Educational Systems", *OECD Economics Department Working Papers*, No. 1051, OECD Publishing, Paris, https://dx.doi.org/10.1787/5k4695840w7b-en. [20]

Blöchliger, H. and D. King (2007), "Less than you thought: The fiscal autonomy of sub-central governments", *OECD Economic Studies*, Vol. 43, https://dx.doi.org/10.1787/eco_studies-v2006-art12-en. [10]

Dougherty, S., M. Harding and A. Reschovsky (2019), "Twenty years of tax autonomy across levels of government: Measurement and applications", *OECD Working Papers on Fiscal Federalism*, No. 29, OECD Publishing, Paris, https://dx.doi.org/10.1787/ca7ebc02-en. [1]

Dougherty, S. and L. Phillips (2019), "The spending power of sub-national decision makers across five policy sectors", *OECD Working Papers on Fiscal Federalism*, No. 25, OECD Publishing, Paris, https://dx.doi.org/10.1787/8955021f-en. [13]

Kantorowicz, J. and B. van Grieken (2019), "Spending Autonomy of Sub-central Governments: Conceptualisation and Measurement", *OECD Fiscal Federalism Background Papers*, https://oe.cd/KvJ19. [14]

Kim, J. and S. Dougherty (eds.) (2018), *Fiscal Decentralisation and Inclusive Growth*, OECD Fiscal Federalism Studies, OECD Publishing, Paris/Korea Institute of Public Finance, Seoul, https://dx.doi.org/10.1787/9789264302488-en. [19]

Kim, J., J. Lotz and N. Mau (eds.) (2015), *Interaction Between Local Expenditure Responsbilities and Local Tax Policy*, The Copenhagen Workshop 2013, The Korea Institute of Public Finance and the Danish Ministry for Economic Affairs and the Interior. [18]

Lastra-Anadón, C. and S. Mukherjee (2019), "Cross-country evidence on the impact of decentralisation and school autonomy on educational performance", *OECD Working Papers on Fiscal Federalism*, No. 26, OECD Publishing, https://dx.doi.org/10.1787/c3d9b314-en. [27]

Lincoln Institute of Land Policy (2018), *Significant Features of the Property Tax*, http://datatoolkits.lincolninst.edu/subcenters/significant-features-property-tax. [29]

Meloche, J., F. Vaillancourt and S. Yilmaz (2004), "Decentralization or Fiscal Autonomy? What Does Really Matter? Effects on Growth and Public Sector Size in European Transition Countries", *World Bank Policy Research Working Papers*, No. 3254. [17]

Oates, W. (1972), *Fiscal Federalism*, Harcourt, Brace, Jovanovich, New York. [2]

OECD (2019), *Making Decentralisation Work: A Handbook for Policy-Makers*, OECD Multi-level Governance Studies, OECD Publishing, https://dx.doi.org/10.1787/g2g9faa7-en. [9]

OECD (1999), *Taxing Powers of State and Local Government*, OECD Tax Policy Studies, No. 1, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264174030-en. [15]

OECD/KIPF (2016), *Fiscal Federalism 2016: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264254053-en. [12]

Owens, J. and G. Panella (1991), *Local Government: An International Perspective*, North-Holland, Amsterdam. [3]

Reschovsky, A. (2019), "The Tax Autonomy of Local Governments in the United States", *Lincoln Institute of Land Policy Working Paper*, No. WP19AR1. [28]

Stegarescu, D. (2005), "Public Sector Decentralisation: Measurement Concepts and Recent International Trends", *Fiscal Studies*, Vol. 26/3, pp. 301–333. [5]

Stossberg, S. and H. Blöchliger (2017), "Fiscal Decentralisation and Income Inequality", *Journal of Economics and Statistics*, Vol. 237/3, pp. 225-273. [23]

Thornton, J. (2007), "Fiscal Decentralization and Economic Growth Reconsidered", *Journal of Urban Economics*, Vol. 61/1, pp. 64-70. [16]

US Census Bureau (2019), *Annual Survey of State and Local Government Finances*, http://www.census.gov/programs-surveys/gov-finances.html. [30]

Van Rompuy, P. (2016), "Sub-national Tax Autonomy and Deficits: Empirical Results for 27 OECD Countries", *Regional Studies*, Vol. 50/7, pp. 1248-1259. [26]

Vermeulen, W. (2018), "Decentralised funding and inequality in education", in *Fiscal Decentralisation and Inclusive Growth*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264302488-7-en. [24]

Notes

[1] The OECD Fiscal Decentralisation database is available at http://oe.cd/FDdb.

[2] For the 2014 survey, three "c" codes were combined into a single "c" code.

[3] With an equalising tax sharing system, the share of total shared tax revenues allocated to SCGs with a low level of resources is increased, while the share going to SCGs with a high level of resources is reduced.

[4] Ten OECD countries have a federal structure: Australia, Austria, Belgium, Brazil, Canada, Germany, Mexico, Spain, Switzerland and the United States. All other OECD countries are treated as unitary: Chile, the Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, South Africa, Sweden, Turkey and the United Kingdom.

[5] Summary tables reporting the results of the six tax autonomy analyses conducted between 2000 and 2018 are included in the OECD Fiscal Decentralisation database.

[6] These data are available for downloading at www.census.gov/programs-surveys/gov-finances.html. The dataset provides detailed local government revenue and expenditure data for the sum of all local governments in each state and for the District of Columbia.

[7] These revenue estimates are not perfect, as there is no way to account for uneven patterns of revenue within a fiscal year.

[8] On average, revenue from taxes account for 65% of the total revenue local governments raise from their own sources, i.e. excluding intergovernmental grants. However, the share of own-source revenues from taxes varies from 44% to 87% across the 50 states and the District of Columbia (US Census Bureau, 2019[30]).

[9] The detailed information on individual taxes that provided the basis for assigning the tax autonomy codes came from a multitude of sources. For the property tax, information came from *Significant Features of the Property Tax*, a website constructed and maintained by the Lincoln Institute of Land Policy (2018[29]). The most frequent source of this information came from state government websites associated with state departments of revenue, or other state government agencies.

[10] Similarly, in states that set a maximum rate and where all or nearly all local governments utilise that maximum rate, the local tax is classified as "e" indicating no local government autonomy.

[11] Most states adhere to Dillon's Rule, a legal principle that limits the authority of local governments. Even in non-Dillon's Rule states, the authority of local governments to establish new taxes is usually quite limited.

4 Spending autonomy and public sector performance across levels of government

Differences in spending autonomy across sectors and countries may have important consequences for intergovernmental fiscal relations. Yet the share of subnational expenditure often does not reflect the true degree of decision-making authority. This chapter first presents new measures of subnational spending autonomy across key sectors of local government service delivery, which allows the analysis of alternative arrangements on outcomes. The chapter then examines how the performance of the public sector can be strengthened through the assignment of responsibilities at the most effective level of government for their delivery, focusing on health care. Performance monitoring and evaluation systems are also illustrated that enable benchmarking of public services to promote learning about good policy practices.

Introduction

The Coronavirus pandemic has brought renewed attention to the performance of government services, both in relation to the crisis itself and the enduring fiscal and other policy challenges that will be its legacy. Public deficits and debt have risen substantially, so that budgetary resources are even more constrained. Government resources will need to be harnessed as cost-effectively as possible if consequent societal needs, in healthcare, welfare services, education and other community services are to be adequately met in coming years. The ability to reduce debt and pay services will depend on income growth and reversing the downward trend in productivity that has occurred in many countries since the global financial crisis. This will be influenced by government policies and by the productivity of the public sector itself.

The decentralisation of public service provision is a central topic in fiscal federalism. Through the well-designed devolution of public services, it may be possible to realise efficiencies, better adapt services to local preferences and improve outcomes (OECD/KIPF, 2016[1]). Typically, decentralisation implies that subnational governments assume responsibility for all or part of the provision of a particular service. This necessarily raises questions related to whether the level of government financing the various services also possesses decision-making authority over them. As such, metrics that aim to capture the true extent of subnational spending power must consider both the extent of subnational spending on services, as well as the level of subnational control over the provision of said services.

There is increased recognition that the public sector – whether at central, regional or subnational levels – has the potential to do better in many areas, whether service-related or regulatory in nature. The degree of subnational spending power is generally depicted as the subnational expenditure share as a proportion of total government expenditure. However, because of barriers and restrictions on subnational decision making, including earmarked grants, mandatory spending and national standards, simple expenditure shares can misrepresent the true level of subnational decision-making autonomy. This makes accurately comparing and measuring decentralisation across countries difficult, far beyond the purely statistical challenges that cross-country comparisons already face. To address these challenges, the OECD's Network on Fiscal Relations has developed a set of survey-based spending power indicators which seek to reflect more accurately the extent of subnational control over spending within individual sectors, such as health care, education, housing, long-term care and transportation (Beazley et al., 2019[2]; Dougherty and Phillips, 2019[3]; James et al., 2019[4]; Kantorowicz and van Grieken, 2019[5]; Phillips, 2020[6]). The Network and its partners have also developed empirical insights from cross-country comparisons regarding the role and contribution of different levels of government and the determinants of performance (Dougherty et al., 2019[7]; Lastra-Anadón and Mukherjee, 2019[8]; Jong et al., 2021[9]; Dougherty, Renda and von Trapp, 2021[10]; Dougherty et al., 2021[11]). This chapter synthesises this work, along with related studies, and draws implications for policy making as well as for further research. Main findings include:

- Measurement of public sector performance is fundamental to improving outcomes, yet it is also extremely challenging to do well. A combination of approaches will generally be called for, including improved data and methods, appropriate assignment of responsibilities across levels of government, effective benchmarking and monitoring systems, as well as institutions that are custom fit for purpose, including for in-depth diagnosis and evaluation of policy needs.
- Aligning spending and financing responsibilities for public services at the most effective level for delivery is a core central government imperative. Differences in the nature of public services such as education and health have an important relation with how they can be best organised across government levels. Depending on the target sector and population, economies of scale may also vary across countries and time, with periodic adjustments needed to improve performance.

- Spending power is quite balanced across the sectors explored, but is less decentralised in health and long-term care, and more decentralised in social housing, transport and primary and secondary education (referred to as “education”) services. That is, regional and local governments, as well as service providers, tend to have more power to make decisions about how social housing, transport and education services are delivered, compared to health and long-term care.
- The overall policy framework for service sectors is often centrally controlled, but varies in certain key aspects across sectors – policy autonomy in the long-term care and health sectors is the most centralised, while policy decisions are least centralised in the social housing sector. In contrast, input and budgeting decisions are more likely to be decentralised.
- Deploying public sector performance monitoring and evaluation systems can enable not only the benchmarking of public expenditures across subnational regions and municipalities, but also promote learning about good policy practices and engage public stakeholders in a constructive feedback process.

The chapter first discusses the development of indicators of spending autonomy across key sectors, with a special focus on health, including a decomposition of the main components. Second, composite indicators of spending autonomy are presented. Third, public sector performance measurement is discussed along with empirical findings on how the decentralisation process can be used to improve outcomes in some sectors. Finally, performance benchmarking and monitoring systems are discussed and considered in an intergovernmental relations context.

Expenditure shares, spending power and fiscal autonomy

Measuring subnational autonomy through expenditure shares

In measuring the fiscal dimension of subnational autonomy, scholars have generally relied upon indicators such as expenditure and revenue shares to determine the level of decentralisation. Although these indicators can give a first impression of the extent to which subnational governments are decentralised or fiscally autonomous (particularly on the revenue side), these indices fall short in adequately capturing the complexity and multifaceted nature of fiscal arrangements and, by extension, the actual degree of autonomy subnational governments enjoy (Blöchliger and King, 2007[12]). This issue becomes especially apparent in the case of subnational spending autonomy.

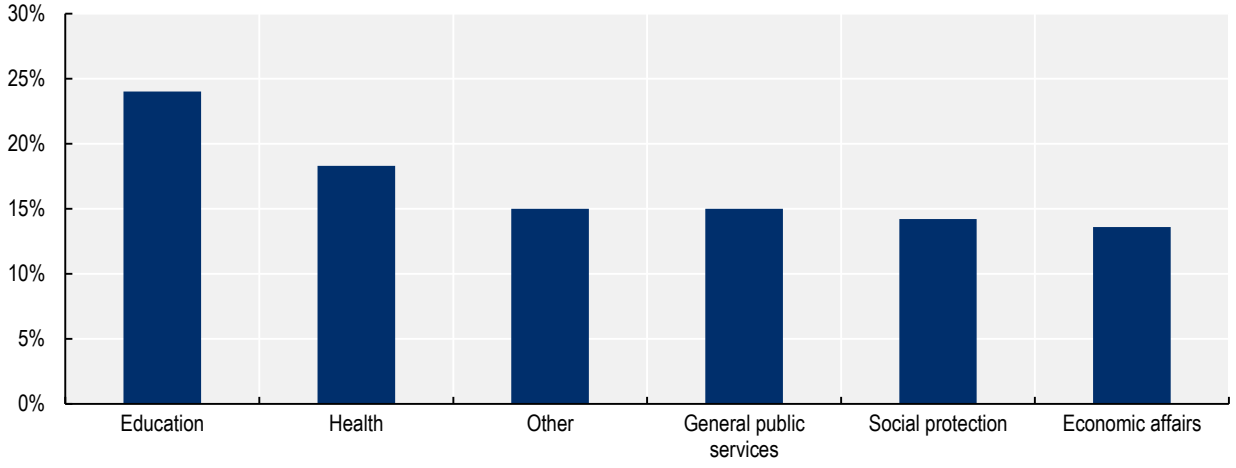
The breakdown of subnational expenditure and subnational expenditure as a share of government expenditure are common metrics to help clarify the spending power of subnational governments. While these indicators do not capture the complexity of fiscal arrangements, they can provide a useful guide of how much fiscal power regional and local jurisdictions enjoy. These metrics are constructed using data from the OECD National Accounts Statistics, which uses the Classification of Functions of Government (COFOG). Now considered as a worldwide standard, COFOG data classifies government expenditure by the purpose for which the funds are to be used.

First-level COFOG splits expenditure data into ten functions (general public services; defence; public order and safety; housing and community amenities; economic affairs; environment protection; health; recreation, culture and religion; education; social protection). COFOG II further divides the ten expenditure functions into 69 sub-functions. The second level of COFOG is particularly important for public finance analysis, as it allows for the breakdown of social protection into different programme areas. Although the sectors evaluated in this survey more closely align with the COFOG II classification, these COFOG data are not available in many countries, reducing the ability to accurately compare the new spending power indicators in this chapter with expenditure shares.

The following figures show the current state of spending decentralisation as measured by the composition of subnational government expenditure in OECD countries (Figure 4.1) and subnational government expenditure as a proportion of total government expenditure. Education represents the largest sector in the subnational government expenditure, averaging 24% of all subnational government expenditure across OECD countries in 2019. However, values for individual member states vary considerably. In Estonia, Iceland, Israel, Latvia, the Slovak Republic, Slovenia and the United States, spending on education exceeded 30% of subnational budgets, and in Latvia, it is 41%. Health accounts for the second highest budgetary outlay, accounting, on average, for 18% of subnational government expenditure. It exceeded 20% of subnational budgets in Australia, Austria, Denmark, Finland, Spain, Sweden and the United States, and reached 48% in Italy. The third largest subnational budget item is 'other' expenditure representing 15% of subnational government expenditure, which includes defence; public order and safety; housing and community amenities; recreation, culture and religion; and environment expenditure. Public order, safety and defence expenditures accounted for around 7% of subnational government expenditure. Housing and community amenities represented on average around 3% of subnational government expenditure across the OECD. General public services and social protection (which includes current and capital social expenditure) both represent around 14% of subnational government expenditure.

Figure 4.1. Composition of subnational government expenditure across economic functions

OECD weighted average across countries, 2019

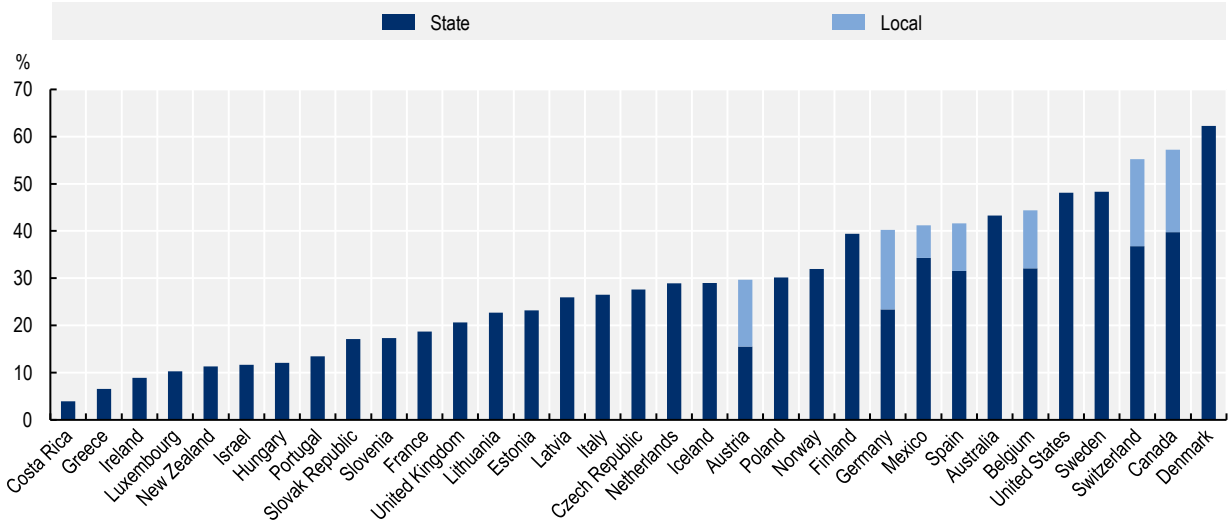


Note: Based on an OECD average excluding Canada, Mexico and Chile, weighted by population size of each country. Subnational government is defined here as the sum (non-consolidated) of regional and local governments.
Source: OECD Subnational Government Structure and Finance database.

StatLink https://stat.link/zr4xj2

While the subnational share of government expenditure (Figure 4.2) is often used to describe the degree of spending power of subnational governments, it does not necessarily indicate whether subnational governments can autonomously decide on the allocation and implementation of the financial resources that are at their disposal. An alternative approach is to consider only certain types of funding arrangements, in particular own-source revenue, as they are assumed to result in more freedom for subnational governments in the way public funds are allocated.

Figure 4.2. Subnational government expenditure as a share of total government expenditure, 2019



Note: The consolidated expenditure of each level of government is defined as total spending minus the inter-governmental transfer spending of that government level. No values are available for the breakdown of local and state expenditure for the United States.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/vtc9qf

However, the true spending autonomy of subnational governments can only be inferred from taking into account existing political-institutional factors, such as national regulations. More specifically, 'gauging spending power entails detailed assessments of each policy area's regulatory environment and intergovernmental fiscal frameworks' (OECD/KIPF, 2016[1]). For instance, one tool of central governments to tie the hands of subnational governments in terms of spending authority is through intergovernmental transfers. Grants from the central level of government to subnational governments can either be non-earmarked (unconditional) or earmarked (conditional). If the latter is the case, resources that are transferred to lower levels of government are controlled by the central government as the transferred resources are intended to be spent on pre-determined programmes (Blöchliger and King, 2007[12]). Such imposed upper-tier regulations thus reduce the actual discretion of subnational governments over expenditure items. As a consequence, large subnational expenditure ratios do not necessarily equate with true spending autonomy (Dougherty and Phillips, 2019[3]).

Developing spending autonomy indicators

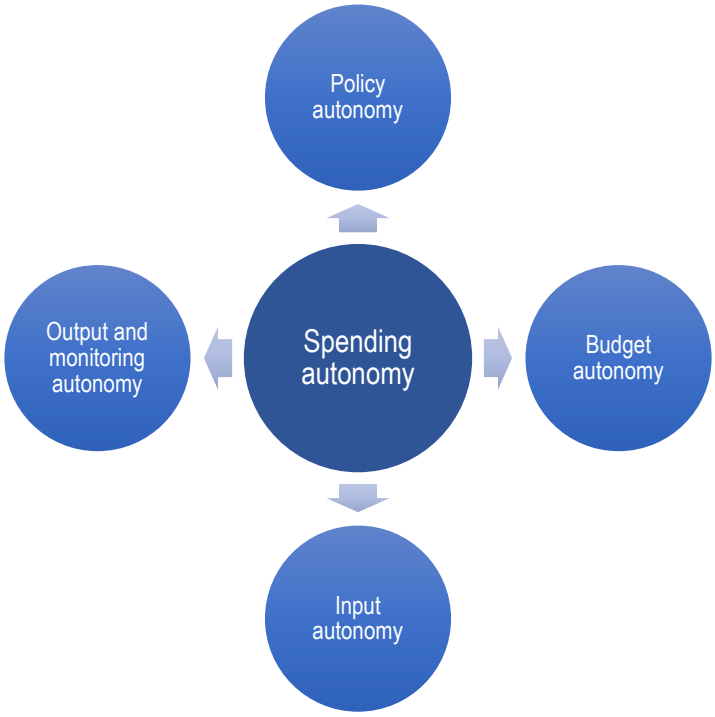
Faced with these measurement issues, scholars have developed more refined indicators of the spending power of subnational governments to adequately capture to what extent sub-entities have authority over expenditure items. Developing indices of spending autonomy is, however, not as straightforward as it may seem as the spending side of the budget comprises a wide range of policy areas. In addition, whereas 'autonomy' in terms of taxation boils down to the ability of subnational governments to set tax rates, tax bases, or both, spending autonomy is more multifaceted. In essence, the spending autonomy of subnational governments depends on the extent to which subnational entities exert influence over rules and regulations in different policy areas and whether they are free from constraints imposed by upper-level governments.

To overcome this apparent complexity, Bach, Blöchliger and Wallau (2009[13]) split up spending autonomy into different categories of rules and regulations (Figure 4.3):

- *Policy autonomy*: The extent to which subnational decision makers exert control over main policy objectives and main aspects of service delivery.
- *Budget autonomy*: The extent to which subnational decision makers exert control over the budget (e.g. is budget autonomy limited by upper level regulation).
- *Input autonomy*: The extent to which subnational decision makers exert control over the civil service (personnel management, salaries) and other input-side aspects (e.g. right to tender or contract out services).
- *Output and monitoring autonomy*: The extent to which subnational decision makers exert control over standards such as quality and quantity of services delivered and devices to monitor and evaluate standards, such as benchmarking.

The preceding categories form the basis of the OECD's spending autonomy indicators. Survey questions are developed within each category to assess each aspect of spending autonomy. The responses received are then combined to compute the indicators.

Figure 4.3. Classifications of spending autonomy



Source: Adapted from Bach et al. (2009[13]).

Defining the indicators

Levels of government

A main characteristic of a decentralised government is the existence of several governing bodies, which have political, administrative or funding power at a subnational level. Three levels of government are defined – central/federal, state/province/region, and local/municipality. In this chapter, subnational governments are defined as sub-central levels of government. Regional governments are upper-tier

municipalities including states, territories or provinces. Local governments are the lowest tier of government including counties, cities, districts, municipalities, councils or shires. In the context of countries with only two levels of government, the lower level is defined as local government.

This chapter focuses on spending power in five key areas of the public sector – heath care, education, housing, long-term care and transport services.

Spending power of subnational decision makers

Spending power should be interpreted beyond budgeting decisions. It describes the level of control or authority of subnational decision makers, including deciding how services are organised, how funds are allocated, the preferred level and quality of inputs and outputs and how service delivery is measured and monitored (OECD/KIPF, 2016[1]). The spending power indicators presented in this chapter aim to provide an accurate representation of spending power, and encompass features such as subnational governments' right to introduce new government programmes, to amend regulations, to grant subsidies and concessions, to abolish spending programmes, to decide on the ratio of recurrent to capital spending, and to allocate funding across priority areas.

Questionnaire scope and methodology

Country questionnaire responses

Indicator values for data on education, long-term care, transport services and social housing are drawn from responses to a recent OECD survey on the spending power of subnational governments. This survey was sent to countries in early 2018, with seventeen OECD countries and four partner countries responding to the survey in full. A further four OECD countries and one partner country provided partial responses to the survey. The indicator values subsequently computed as described in Dougherty and Phillips (2019[3]) and are available on the OECD Fiscal Decentralisation database.[1]

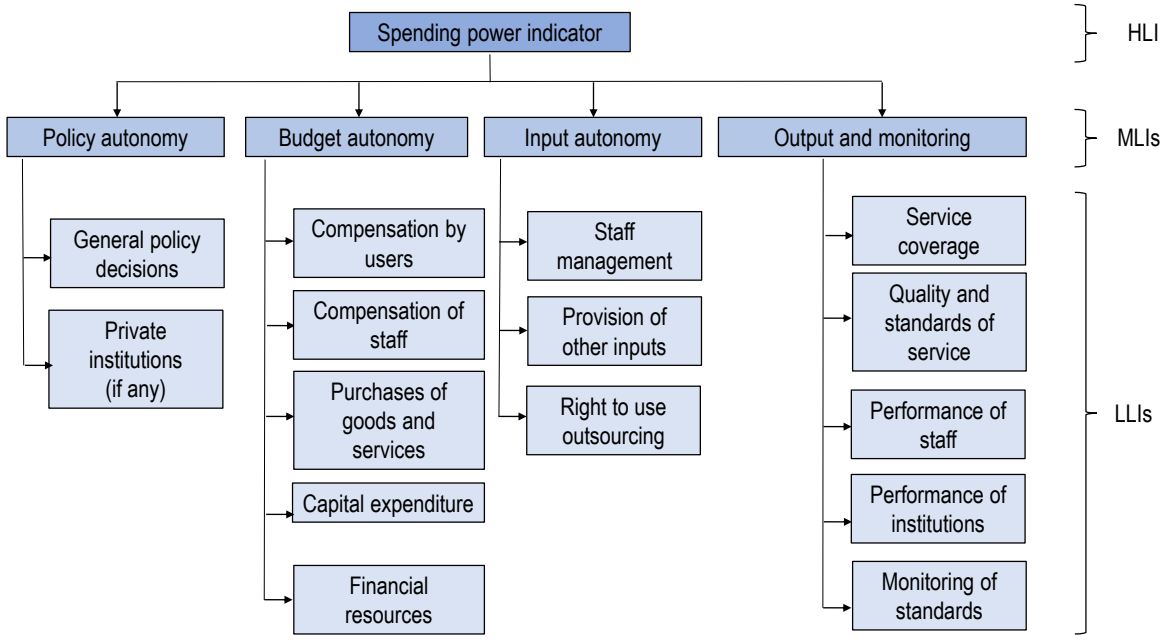
Indicator values for data on health care are drawn from a separate survey on performance measurement systems in the health sector and responsibilities across levels of government. This survey was sent to countries in late 2017 with responses received from 28 OECD countries and three partner countries. Differences in the design of the two questionnaires results in differences between the health data and the data collected for the other four sectors. The health survey was not specifically formulated to construct indicators, and as such, the checkbox questions on responsibilities between levels of government allowed for the following possible responses: central government; regional government; local government or 'other'. Given the varying nature of the 'other' responses, this has not been included in the spending power indicator. This means there is effectively a ceiling on the indicator values for health – health cannot have an indicator value higher than seven whereas the indicator limit for all the other sectors is ten. This reduces comparability across the sectors, and sectors cannot be directly compared within countries, when looking at health and another sector. For further details see Beazley et al (2019[2]).

Indicator values for housing were taken from Phillips (2020[6]), who computed them based on responses to the OECD's 2019 Questionnaire on Affordable and Social Housing (the QuASH). Thirty-five OECD countries and seven partner countries responded to the survey in full.

Computing spending autonomy indicators

The indicator set can be differentiated and shown as an "indicator tree" with low-level indicators (LLI), medium-level indicators (MLI) and the high-level summary indicator (HLI) (Figure 4.4). HLI's are constructed for each of the five policy sectors.

Figure 4.4. Indicator tree for spending autonomy



Source: Dougherty and Phillips (2019[3]).

In order to construct a composite indicator from individual survey questions, the country responses to each question are transformed into LLIs using the values shown in Table 4.1, which describe one specific aspect of decision making in each sector. Indicator values are scaled between 0 and 10, with a higher value associated with greater decentralisation. While indicator values are scaled between 0 and 10, the ordinal ratings are arbitrary (Table 4.1). If answers to the questionnaire indicated shared responsibilities, which was often the case, the arithmetic mean of the indicator values for the decision-making levels involved was used.

Table 4.1. Coding values

Level of decision maker	Indicator value
Central	0
Regional	3
Local	7
Provider	10
Not applicable response	Not included
Social security fund (used for aged care indicators only)	0
Other (included in health survey only)	Not included

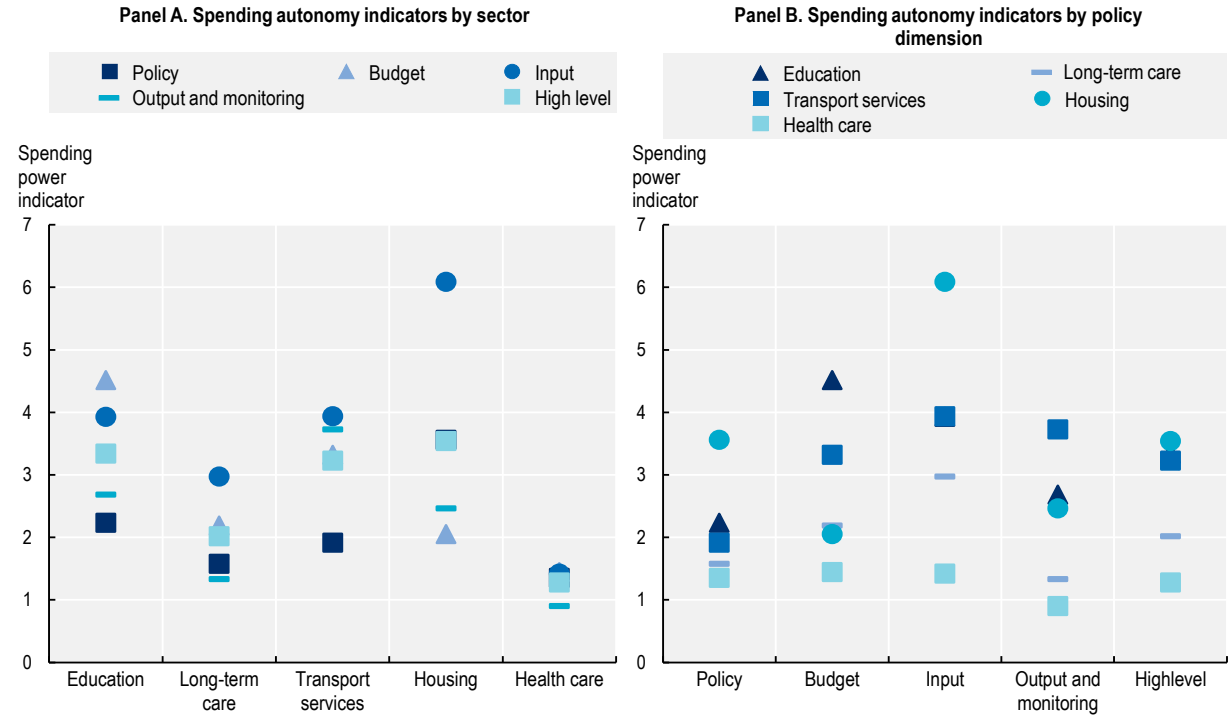
Service providers are considered a separate decision-making level receiving the highest indicator value. This implies that a move of spending responsibilities from a state or local government to providers increases subnational autonomy. While allocating spending power to providers tends to bring services closer to citizens, it does not necessarily increase subnational government power over a specific service. This should be taken into account when interpreting the results.

An alternative approach to scoring the data can be taken, which equally distributes scores between zero (central) and one (local) across levels of government, according to whether a level of government has autonomy on a given competency. This more uniform approach allows for balanced comparisons across

different sectors and between federal and unitary countries. It is described in detail by Kantorowicz and van Grieken (2019[5]) and is also available in the Fiscal Decentralisation database. This approach is also used for enhanced comparability when developing a composite indicator of spending autonomy (Box 4.1).

The results by sector and by policy dimension are shown in Figure 4.5, Panels A and B.

Figure 4.5. Spending autonomy indicators by sector and by policy dimension



Source: Fiscal Decentralisation database.

StatLink https://stat.link/ziqlm5

Spending power in health

Overall results

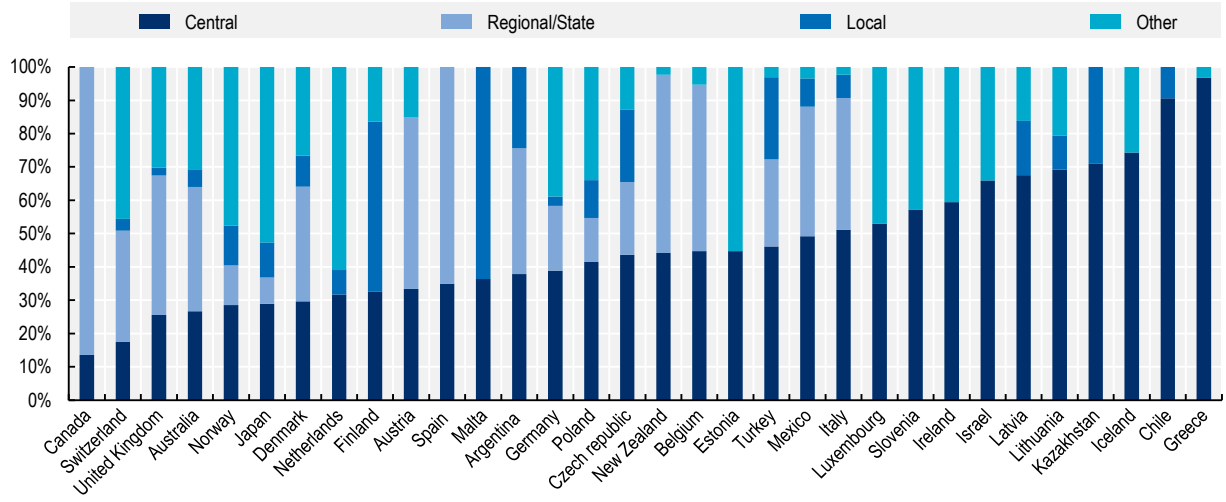
There is an imbalance between the powers of different decision makers in health, with 62% of decisions in the sector controlled by the central government. This high centralisation could be due to a range of factors. There are obvious efficiencies that come from having certain aspects of health centralised, for example, data sharing requirements. Secondly, many of the positive social and economic benefits from having a high-quality health care system, maintaining minimum national standards and adequately funding preventative health flow to the country as a whole, rather than being confined to sub-jurisdictional borders. Further, due to the cost and complexity of many health systems and hospital procedures, a lack of economies of scale can discourage subnational involvement. Central and regional power is relatively diversified across the four classifications of autonomy, but, similar to other service sectors, the power of local governments and providers is more concentrated on aspects of decision making that involve inputs.

Figure 4.6 shows the allocation of responsibility for decisions in health care, across respondents. It is calculated as the number of times a country responded that a level of government was responsible for a health decision, and then shows these sub-totals as a proportion of the total 'yes' responses, for each

country. Decision-making power across many facets of the health sector in surveyed countries is strongly skewed towards the central government. This strong centralisation of health responsibilities is despite a general trend towards decentralisation of health care over the last 20 years, which has transferred competences to the subnational level. However, some OECD countries such as Australia, Germany or Sweden, have recentralised over the last 20 years (OECD, 2018[14]). On average, central governments are nearly twice as likely to be responsible for the health decisions surveyed, compared with regional governments, and four times more likely compared with local governments. As shown in the figure below, health remains a centralised responsibility in several countries, but most strongly in Greece, Chile and Iceland. At the other end of the spectrum, the subnational government is usually responsible for health decisions in Canada, Switzerland and Spain.

Figure 4.6. Decision-making power in the health sector, across levels of government

% of decisions at each level



Source: OECD survey on performance measurement systems in the health sector and responsibilities across levels of government (2018).

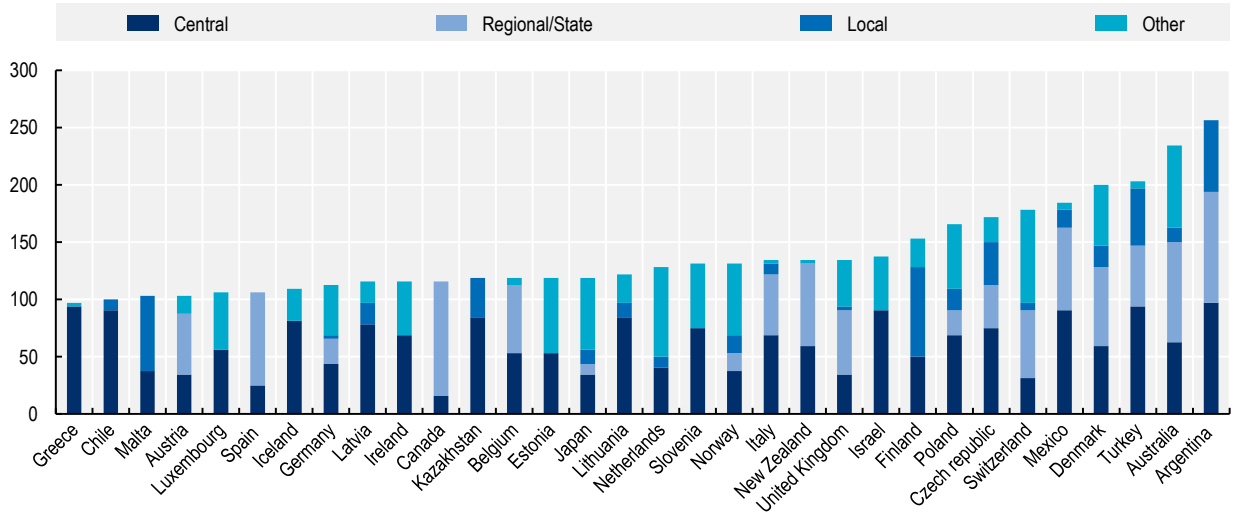
StatLink https://stat.link/avf1kj

Reponses to 'other' reflect the presence of other significant decision-making power across areas of spending power. Responses to other included public and private health insurance funds, and public and private service providers, particularly hospitals.

A shared responsibility is when two or more decision makers are responsible for the same decisions and is the result of multiple levels of government or authorities being responsible for the financing or policy making of service delivery. Figure 4.7 shows the level of shared responsibilities in health care. A high number of shared decisions suggests the presence of more complex frameworks and more overlapping responsibilities. This has the potential to generate inefficiencies in intergovernmental relations, and reduce transparency and accountability of public policies and government spending. Taller columns represent countries with a greater number of shared responsibilities in health care, including Argentina, Australia, and Denmark. Interestingly, Canada, Germany and Spain have low levels of shared responsibilities despite these countries being federal, where power is shared with subnational governments.

Figure 4.7. Shared responsibilities in health care

Cumulative number of areas for which each level of government is responsible



Source: OECD survey on performance measurement systems in the health sector and responsibilities across levels of government (2018).

StatLink https://stat.link/nft7ol

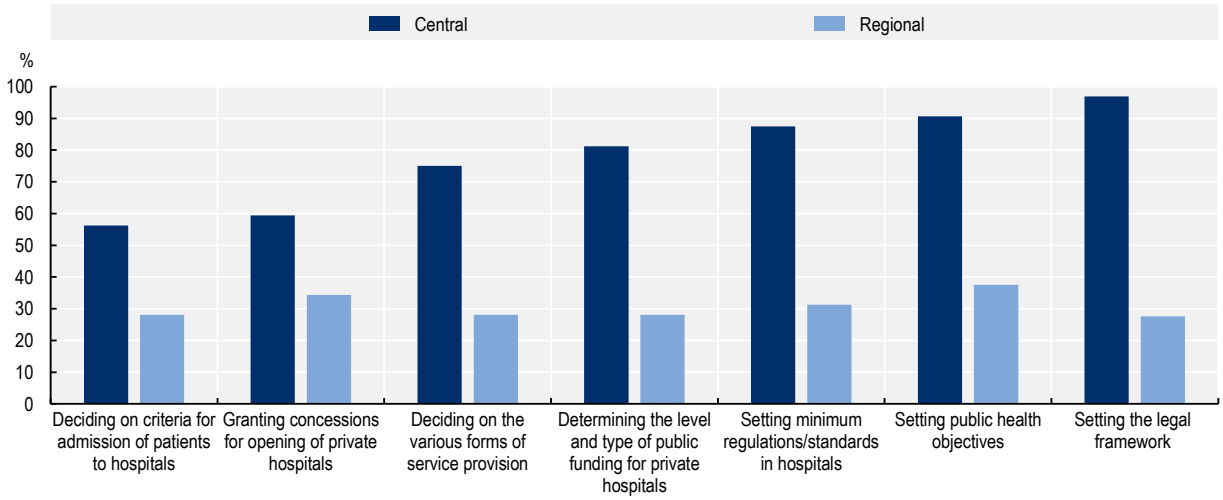
Policy decisions in health care

The majority of survey respondents stated that the central government is responsible for key decisions about policy (Figure 4.8). Specifically, setting public health objectives was a central government responsibility and a regional government responsibility, for 91% and 38% of respondents, respectively. Setting the legal framework (e.g. a law establishing objectives for and rights and obligations of hospitals) was the responsibility of the central government for 97% of respondents, and deciding on the various forms of service provision (public vs. private provision) was the responsibility of the central government and the regional government for 75% and 28% of respondents, respectively.

Setting minimum regulations/standards in hospitals was the responsibility of the central government in many countries (88% of respondents), but not in Belgium, Canada, Norway or the United Kingdom. Explicit minimum standards for service coverage, whether social and/or geographical, promote equal access for all citizens. Belgium's current framework of minimum standards has been in place since the '6th state reform', of which the last stage was finalised in July 2014. This reform involved transferring some health care competences (mainly for elderly residential care, mental health, recognition of medical professions and hospital standardisation) from the central government to communities. However, even if competences in some fields were transferred, the 'playing field' for the communities is still subject to national co-ordination or framework of rules. For example, *regional* rules for hospital standards cannot change the rules for social security, or the exercising of medical professions, or the financing rules of hospitals.

Figure 4.8. Responsibilities for key policy decisions between central and regional governments

Proportion of respondents that stated it was the responsibility of central or regional governments



Source: OECD survey on performance measurement systems in the health sector and responsibilities across levels of government (2018).

StatLink https://stat.link/jagv2m

Budgeting decisions in health care

Compared to policy decisions, key budgeting decisions were more evenly split across decision makers, but central governments have considerable power (Figure 4.9). Setting the level of taxes earmarked for health care and setting the base and level of social contributions/premiums for health care was the responsibility of the central government for 91% of respondents.

The same percentage of respondents answered that the central government was responsible for designing and implementing a scale for user contributions or co-payments, as well as differentiating user contributions according to the social situation of users. User contributions cover all individual payments to service providers, including private co-payments through insurance schemes, in return for a service. User contributions for health services can potentially contain excess demand, reducing pressure on government budgets and improving the quality of public services. However, user fees may be less suited for demand management when services are not particularly price sensitive, which may be the case for acute hospital care (Blöchliger, 2008[15]). Indeed, there is considerable evidence showing that excessive user fees and other out-of-pocket payments can impede access to care and cause financial hardship (WHO, 2010[16]).

Deciding on the resource allocation between sectors of care, in terms of hospital care, outpatient care, long-term care etc. was more evenly split with 66% and 39% of respondents suggesting that it was a central and regional government responsibility, respectively.

The central government is often responsible for regulating private hospital activity and determining the level and type of public funding for private hospitals. In Belgium, the definition of 'hospitals' is officially regulated and private health sector providers must be not-for-profit. For-profit institutions can enter the market but do not receive direct public financing. In Denmark, if public hospitals are unable to offer a service within a given timeframe determined by the central government, public hospitals may refer the patient to a private hospital, and the public sector pays the costs. In addition, private hospitals offer treatments funded by user fees or private insurance.

Budgeting decisions concerning hospitals were more evenly shared across decision makers compared to other budgeting responsibilities (Figure 4.9). Financing new hospital buildings was a central government responsibility and a regional government responsibility, for 59% and 47% of respondents, respectively. In Italy, a specific national fund for investment in health care is used for the financing of new hospital buildings. Previously, regions used to finance new hospital buildings through public-private partnerships. Financing new high-cost equipment was the responsibility of the central government for 50% of respondents, the responsibility of regional governments for 47% of respondents, and the responsibility of the other entities, like hospitals, for 41% of respondents. Similarly, financing the maintenance of existing hospitals was a central government responsibility and a regional government responsibility, for 50% and 47% of respondents, respectively. Financing hospital current spending was a central government responsibility (50%) and a regional government responsibility (34%). As would be expected, these key financing decisions are more likely to be the joint responsibility of central and regional governments in federal countries.

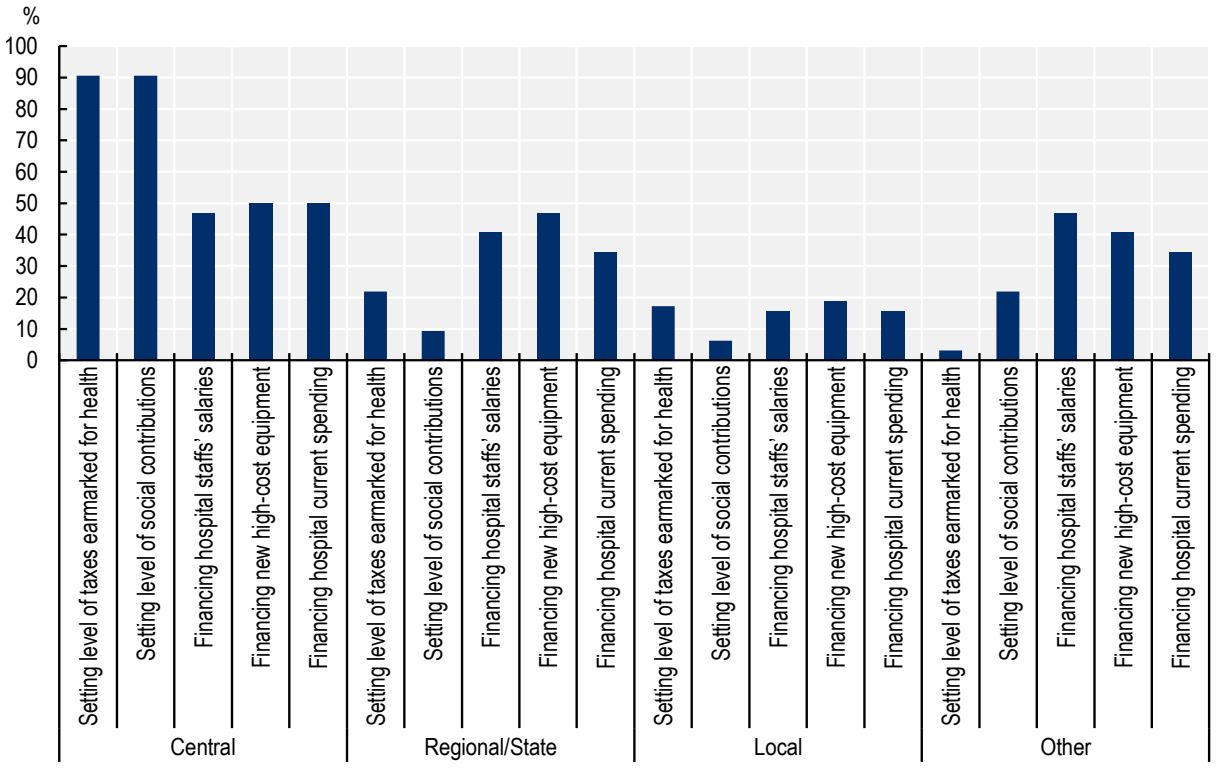
Many countries responded that entities other than central, regional or local governments were responsible for budgeting decisions in hospitals. These key decisions, for example financing hospital staff's salaries, are often made internally by the individual hospital. For example in Switzerland, most hospitals have sufficient autonomy to decide on their own investments, but regional governments are able to influence decisions through their service plans.

Figure 4.10 shows the responsibility of regional governments in key budgeting decisions in federal and unitary countries. In federal countries, regional governments have a high level of responsibility for key financing decisions especially concerning hospital decisions, such as financing new hospitals, and hospital maintenance.

Despite greater decision-making power by subnational governments, central government has much of the responsibility over key budgeting decisions. Some of these key budget decisions, like setting the level of taxes, and setting the total budget for public health care, can restrict the revenue-raising potential of regional governments. This creates a mismatch, where the central government has greater influence with regard to revenue-raising decisions, while regional governments are more often responsible for financing, especially concerning hospitals. This mismatch suggests that the traditional indicator of decentralisation, measured as the subnational expenditure share as a proportion of total expenditure, overestimates the true level of budget autonomy in some, mainly federal, countries.

Figure 4.9. Responsibilities for key budgeting decisions across levels of government

Share of respondents that stated it was the responsibility of central, regional, or local governments or other

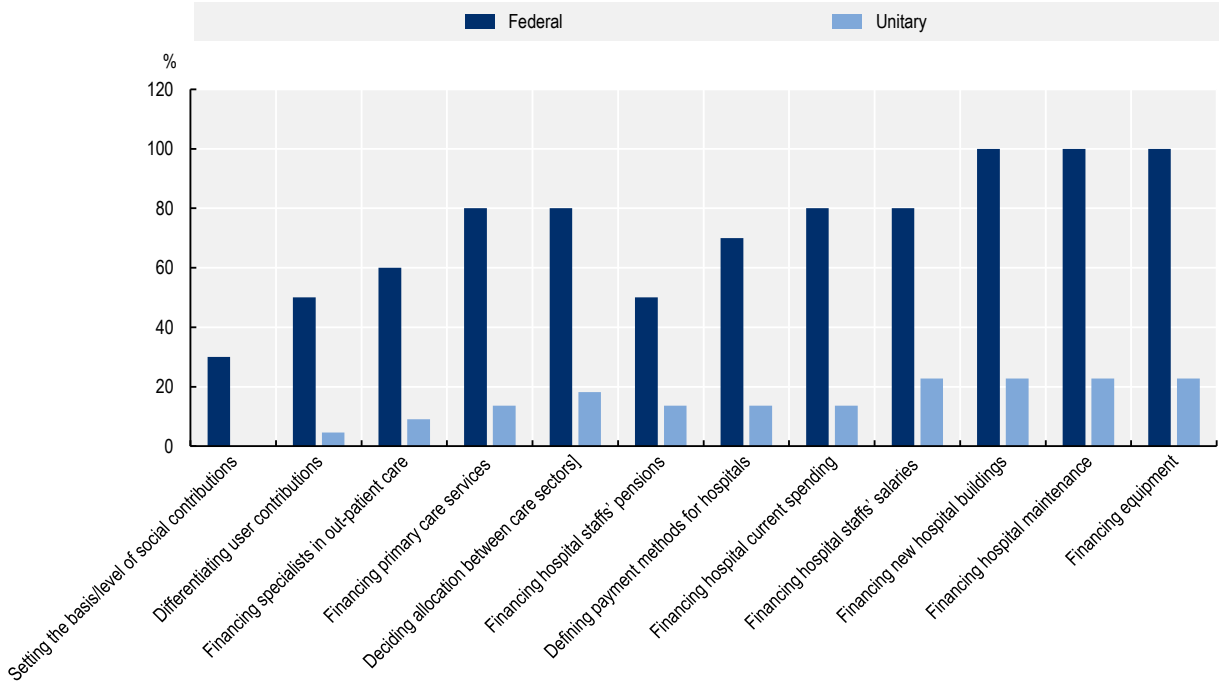


Note: The graph shows the responsibility of key budgeting decisions. The darker bars show decisions concerning hospitals.
Source: OECD survey on performance measurement systems in the health sector and responsibilities across levels of government (2018).

StatLink https://stat.link/sor2iv

Figure 4.10. Regional government responsibility for key budgeting decisions, by federal and unitary countries

Share of respondents that stated it was the responsibility of regional governments



Source: OECD survey on performance measurement systems in the health sector and responsibilities across levels of government (2018).

StatLink https://stat.link/mt43x5

Labour and input decisions in health care

Labour and input decisions include the hiring and firing of staff, determining working conditions, establishing training rules and planning of necessary hospital infrastructure. The responsibility for these decisions was more evenly shared across levels of decision makers.

The hiring and firing of staff was the responsibility of the central government for 31% of respondents, the responsibility of regional governments for 31% of respondents, and the responsibility of the other entities, like hospitals, for 59% of respondents. Determining working conditions (salary scales, pension rules, and working hours) was often a shared responsibility across decision makers, and was a central government responsibility, a regional government responsibility, and the responsibility of other entities, for 88%, 34% and 47% of respondents respectively. In Australia, the relevant employer determines working conditions but must do so in accordance with legislated conditions of the central and regional governments. In the Netherlands, health care providers are responsible for determining working conditions but must comply with collective labour agreements.

Setting remuneration methods for physicians was a central government responsibility, a regional government responsibility, and the responsibility of other entities for 78%, 28% and 31% of respondents, respectively. This shared responsibility generally involves the central government establishing an overall framework for remuneration, with joint responsibility by subnational decision makers like insurers, health care institutions or doctors' associations. In the Netherlands, for instance, the national market authority provides the regulatory framework for remuneration, which is implemented with considerable discretionary power by private insurers. Independent physicians benefit directly from this and remuneration of employed

physicians also depends on their employer's policy. Physician remuneration is also often the responsibility of regional governments in federal countries.

Local governments have little overall power regarding health care decisions, but were most likely to be responsible for input related decisions. In particular, these decisions include the planning and provision of necessary hospital infrastructure and infrastructure maintenance, and the hiring and firing of staff.

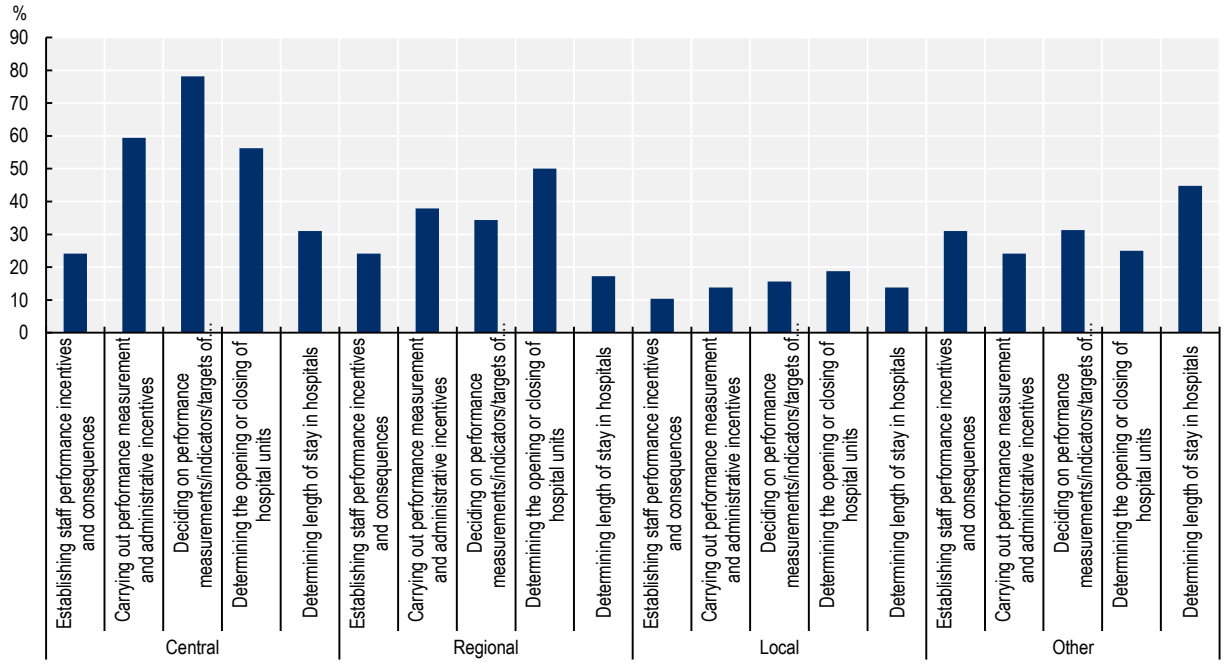
Output and monitoring decisions in health care

Key output and monitoring decisions in health care are shown in Figure 4.11, which includes the breakdown of responsibilities across levels of government. Output decisions, especially regarding hospitals, were split across decision makers. For example, determining the opening or closing of hospital units was a central government responsibility and a regional government responsibility for 56% and 50% of respondents, respectively. Determining the allotment of hospital beds across hospitals was the responsibility of the central, regional, and local governments for 50%, 38%, and 22% of respondents, respectively, and the responsibility of other entities for 31% of respondents. Determining the size of health care districts was the responsibility of the central government for 47% of respondents, and the responsibility of regional governments for 38% of respondents.

Monitoring decisions were more likely to be the responsibility of central government. Deciding on performance measurements, indicators and targets of service providers was a central, regional and local responsibility for 78%, 34% and 31% of respondents, respectively. Monitoring of service provision (does supply meet users' needs, and is access for users from different regions or different social groups ensured) was the responsibly of central government for 78% of respondents and 34% and 16% for regional and local governments, respectively.

Figure 4.11. Responsibilities for key output and monitoring decisions, across levels of government

Share of respondents that stated it was the responsibility of central, regional, or local governments or other



Note: The graph shows the responsibility of key output and monitoring decisions. The darker bars indicate output decisions concerning hospitals.
Source: OECD survey on performance measurement systems in the health sector and responsibilities across levels of government (2018).

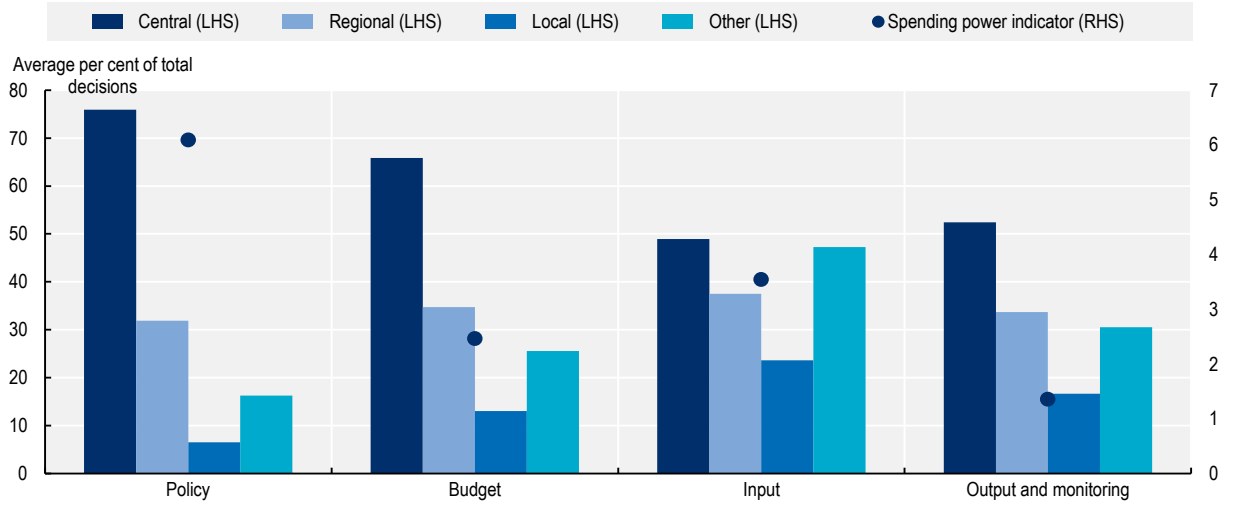
StatLink https://stat.link/d6n2hk

Comparing responsibilities between different aspects of health spending autonomy

Areas of spending power consist of policy, budget, input, output and monitoring. As shown in Figure 4.12, central governments still have considerable spending autonomy. However, they are most likely to be responsible for decisions regarding the policy and budgetary aspects of health care, and have less control over decisions regarding the inputs and outputs as well as monitoring of health care. Decisions for input-related matters, such as determining which services can be out-sourced and deciding on the contractual status of staff, fall more on subnational governments, especially for regional governments in federal countries.

Local governments have little decision-making power in the health care sector, but have more responsibility with regard to health inputs, namely, deciding on hospital infrastructure maintenance and planning hospital infrastructure. Financing the current spending of hospitals and financing new high-cost equipment are more likely to be the responsibility of local governments in federal countries.

Figure 4.12. Responsibilities across areas of spending autonomy in health care



Note: Graph shows the average level of responsibility across policy, budget, input, and output and monitoring autonomy across all decisions, for central, regional, local, and other decision makers.
Source: OECD survey on performance measurement systems in the health sector and responsibilities across levels of government (2018).

StatLink https://stat.link/yzn230

Spending power in other sectors

Housing

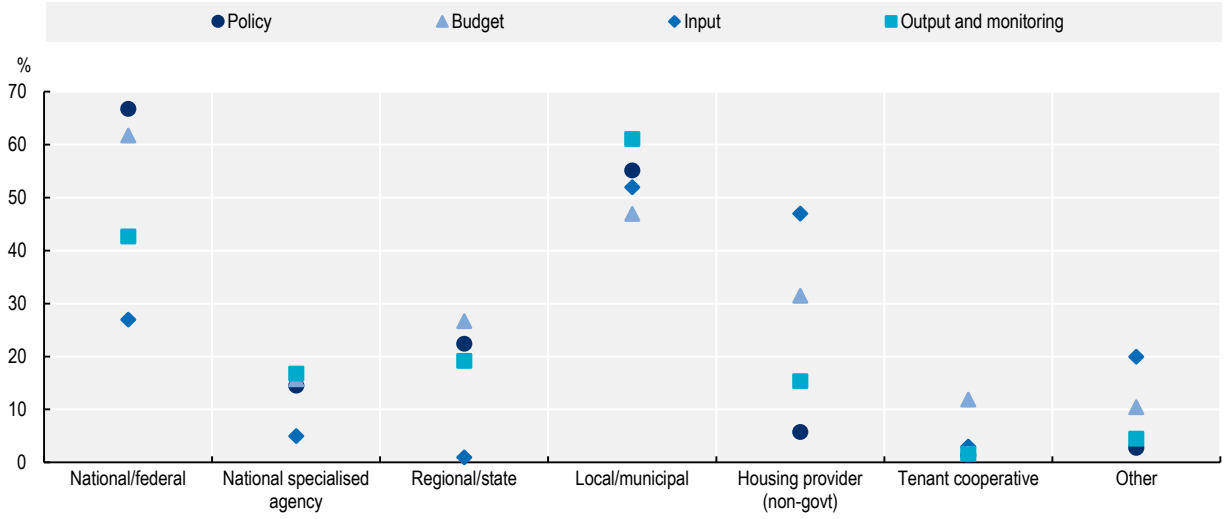
Housing responsibilities are typically held by multiple levels of government. In the majority of countries, the governance of the housing sector is shared between national government and local governments, with national governments having a slightly larger role regarding overall policy priorities, while local governments are responsible for the implementation of social housing programmes, the allocation of social housing, sustainable urban development and spatial planning.

As shown in Figure 4.13, local governments take on more responsibility for the output decisions and infrastructure financing of social housing provision. While local authorities still have a lot of responsibility for social housing policy decisions, national governments on average are more likely to be responsible for deciding on policy metrics. When averaging across respondents, social housing autonomy is most likely

be assigned to central decision makers, with 57% of decision making the responsibility of national governments. Local governments also play an important role – on average they are responsible for 45% of decision making in the social housing sector, while autonomy for regions (23%) and providers is lower.

Figure 4.13. The categorisation of social housing responsibilities across actors

Average of respondents (%)

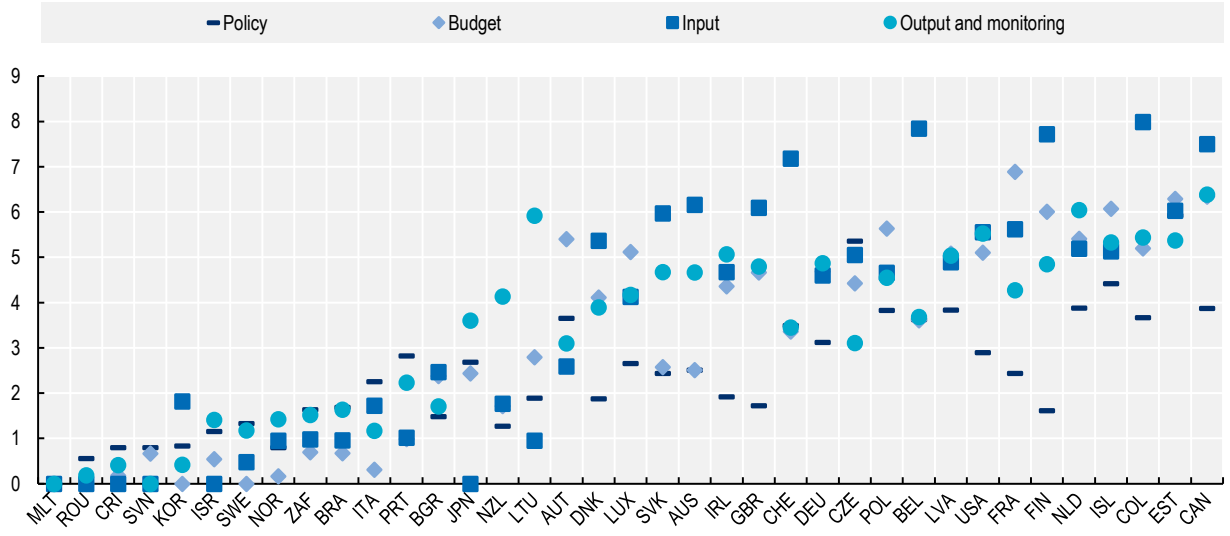


Source: Phillips (2020[6]).

StatLink https://stat.link/lj914m

When looking at the social housing spending power indicators, output, monitoring and input decisions are more likely to be devolved to lower level actors, than policy decisions. This is consistent with the findings for the other five policy areas examined in this chapter. The devolution of spending power follows a similar trend as for other public services. Policy decisions have a spending power index of 2.4 on average, compared to input decisions which have a spending power indicator of 3.4, on the scale of 0 and 10. Social housing is on average most decentralised in Canada, Estonia, Colombia, Iceland and the Netherlands. Decision making is more devolved to lower-level actors in federal countries (spending power of 3.6), compared to unitary ones (2.9) in particular with regard to input decisions (Figure 4.14). The constitutional underpinning of countries does, however, not seem to affect the broad trend that policy decisions are more centrally determined, and output, monitoring and input decisions are more likely to be devolved.

Figure 4.14. Spending power indicators for social housing by sub-category



Source: Phillips (2020[6]).

StatLink https://stat.link/h1ugno

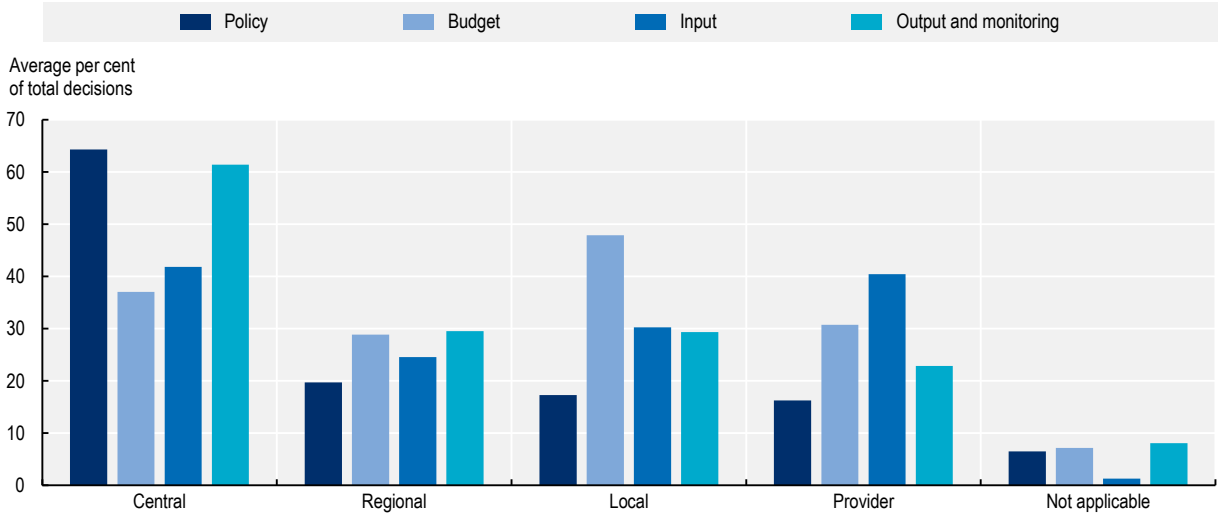
Education

The education sector surveyed in the questionnaire relates specifically to the primary and secondary education sector, including the administration, inspection, operation or support of schools. In the education sector, the central government has on average the most decision-making power with it being the sole or shared decision maker in 50% of the aspects of education surveyed. Despite this, regional governments, local governments, and education providers all have important powers across the countries surveyed, with these entities being a sole or shared decision maker in 26%, 32% and 29% of decisions respectively. These results support the view that the decentralisation of education, especially education financing, has become a global feature.

This is a positive outcome, as studies show that fiscal decentralisation may raise the overall share of the budget devoted to public investment and education, thus increasing human capital. Many studies also show that fiscal decentralisation may positively affect education performance, as measured by the OECD Programme for International Student Assessment (PISA) (Kim and Dougherty, 2018[17]).

To the extent that the central government has decision-making responsibility it tends to be most concentrated in policy, and output and monitoring decision making, while local government autonomy is most pronounced in regard to budgeting decisions and education providers have the most power over input decisions (Figure 4.15 and Figure 4.16). This aligns with the general hypothesis that areas of education services like setting the curriculum and setting overall standards for schools should be and generally are, centralised, while decision making around school and teacher management is generally assigned to the subnational level.

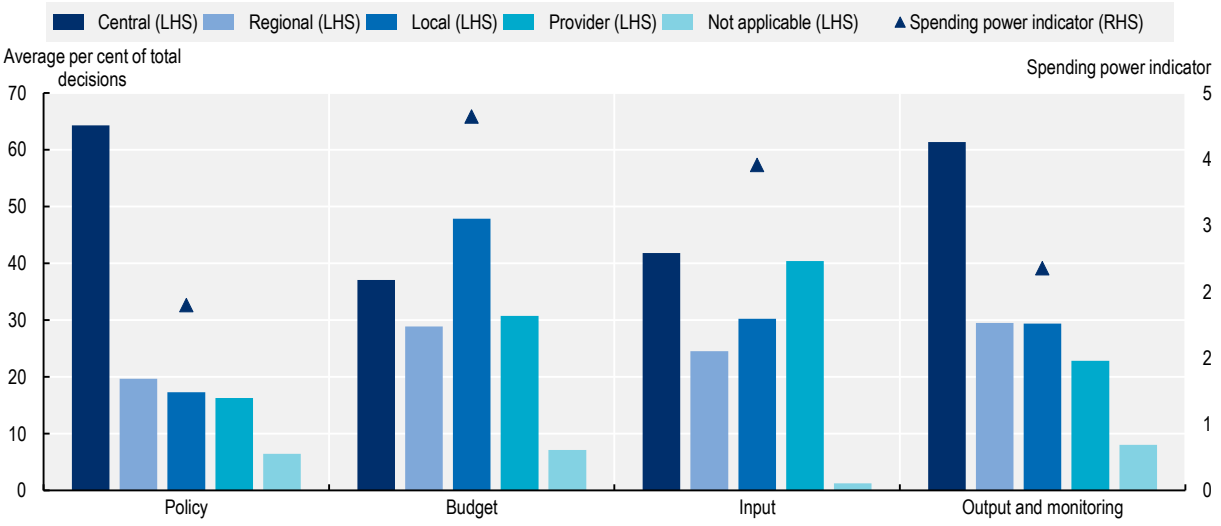
Figure 4.15. Distribution of responsibilities in education sector across decision makers



Note: Survey questions are categorised by autonomy classification and level of government, and 'yes' responses as proportion of all responses.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/31o5v6

Figure 4.16. Distribution of responsibilities in education sector across autonomy classification



Note: Survey questions are categorised by autonomy classification and level of government, and 'yes' responses as proportion of all responses.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/96zvdl

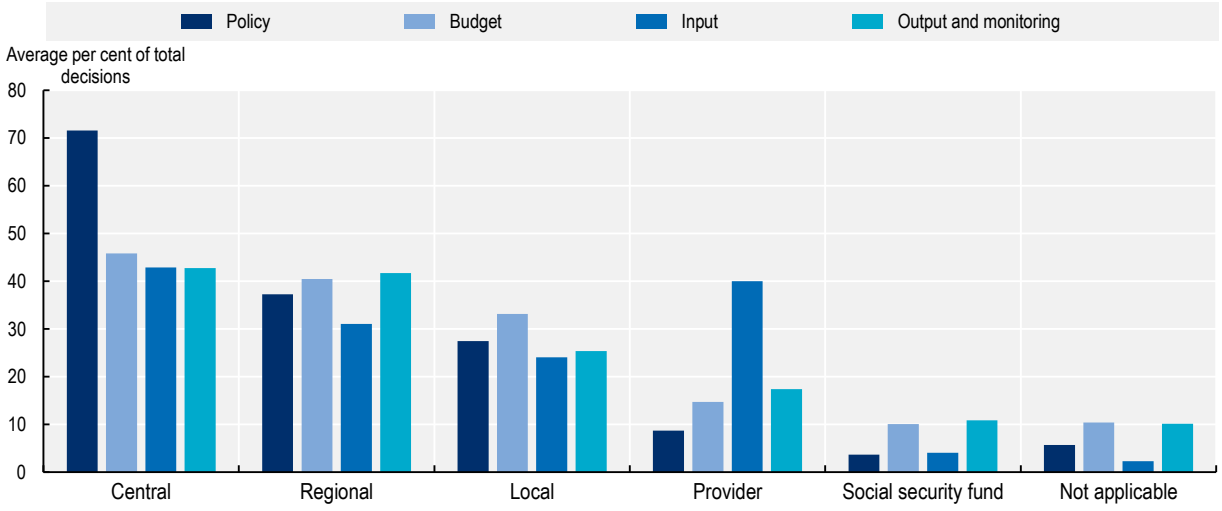
Long-term care

The long-term care sector includes a wide range of services that are provided over an extended period to people with a reduced degree of functional capacity. The OECD questionnaire focused mainly on services and benefits in the form of institutional care (e.g. nursing homes and assisted living facilities), home care by professional care providers, and included informal care, to the extent that governments offer subsidies, tax-credits or income support to assist relatives or friends acting as caregivers.

In the long-term care sector, the central government has the most decision-making power, with it being the sole or shared decision maker in 51% of the aspects of long-term care surveyed. Despite this, regional governments, local governments, long-term care providers and social security funds all have some power across the countries surveyed, with these entities being a sole or shared decision maker in 37%, 27%, 21% and 7% of decisions respectively.

Based on arithmetic averages, central government power is by far the most concentrated in decision making regarding policy aspects of long-term care services, with respondents suggesting that the central government is in charge of 71% of policy autonomy decisions in long-term care. Regional governments have the most autonomy in budgeting, and output and monitoring aspects of long-term care, and the local government is also most likely to be in charge of budgeting (Figure 4.17 and Figure 4.18).

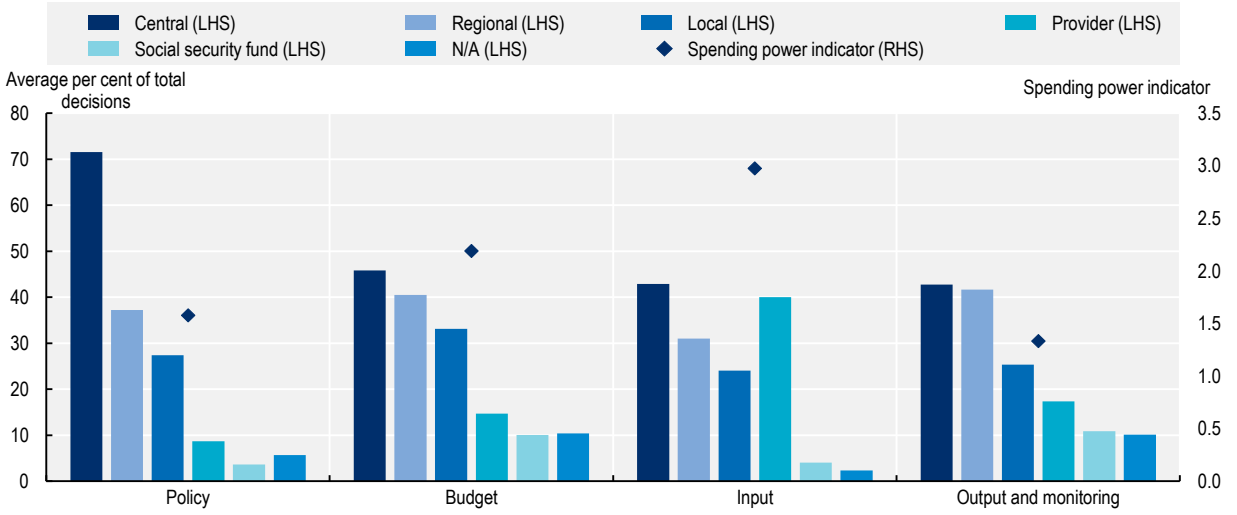
Figure 4.17. Distribution of responsibilities in long-term care across decision makers



Note: Survey questions are categorised by autonomy classification and level of government, and 'yes' responses as proportion of all responses.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/owqkvp

Figure 4.18. Distribution of responsibilities in long-term care across autonomy classifications



Note: Survey questions are categorised by autonomy classification and level of government, and 'yes' responses as proportion of all responses.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/lce7zd

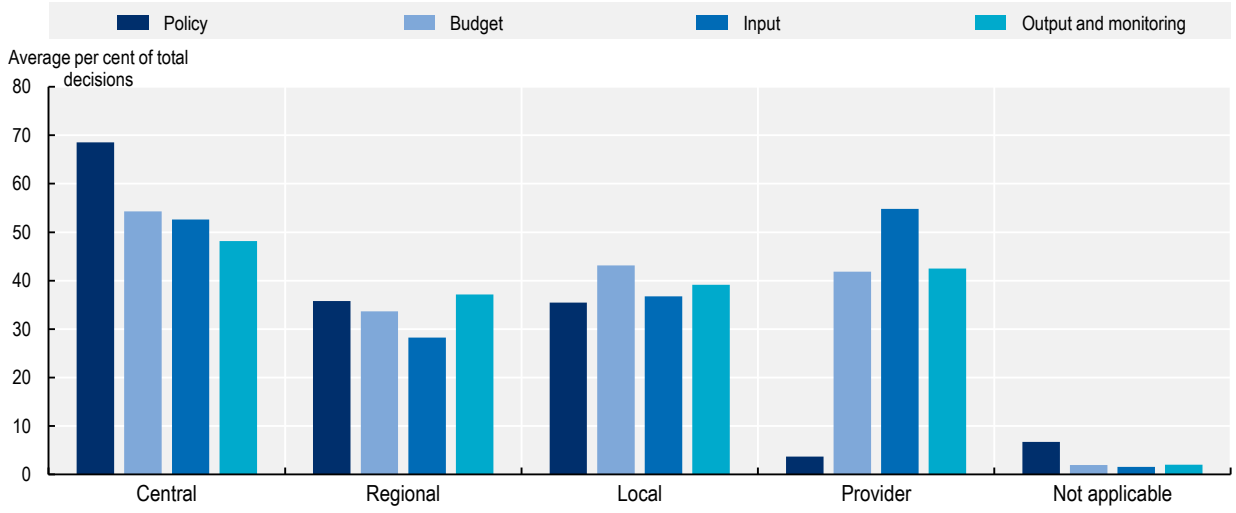
Transport services

Transport services includes the construction, maintenance, operation and administration of water, road and railway transport systems and facilities, and does not take into account non-scheduled bus services, funiculars, cable cars, chairlifts and air transportation.

In the transport services sector, the central government again has the most decision-making power on average, but power is more balanced towards transport providers and local governments. In contrast to the long-term care sector, regional governments have the least decision-making responsibilities, on average. There are also differences across the various transport sub-sectors, with rail services more centralised, and less likely to be the responsibility of local governments compared to other transport services. This is consistent with the premise that the local level often lacks the economics of scale to address urban-rural linkages across vast geographical areas, which are best undertaken by central governments. Bus services are more likely to be decentralised than the average, with high decentralisation of budgeting autonomy for bus services.

The central government responsibilities are relatively balanced across the four classifications of autonomy, but are still more skewed towards policy decisions. As would be expected, local governments are more likely to be in charge of transport services in urban areas, including buses, urban roads and bridges. The responsibilities of transport providers are more likely to be input orientated, especially with regard to the conditions and acquisition of workers (Figure 4.19 and Figure 4.20).

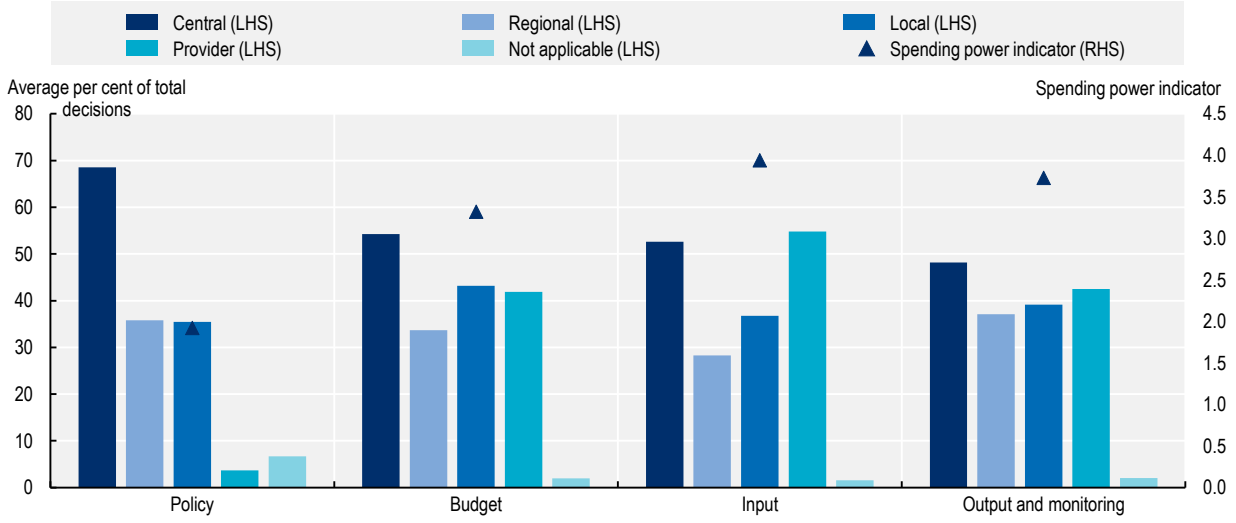
Figure 4.19. Distribution of responsibilities in the transport services sector across decision makers



Note: Survey questions are categorised by autonomy classification and level of government, and 'yes' responses as proportion of all responses.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/8hvipn

Figure 4.20. Distribution of responsibilities in the transport services sector across autonomy classification



Note: Survey questions are categorised by autonomy classification and level of government, and 'yes' responses as proportion of all responses.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/xvkbrm

Extending the indicators: Computing composite indicators with uncertainty

As described earlier, low-level indicators (LLIs) obtained from survey responses are aggregated to compute medium-level indicators (MLIs) and subsequently high-level indicators (HLIs). This process introduces uncertainty which arises from several sources. First, there is uncertainty about the relative weight that should be attached to each LLI when computing the MLIs. Second, there is uncertainty owing to the fact that only a fraction of possible policy sectors are covered by the survey data. In effect, the sectors considered in this chapter constitute a sample of all possible sectors which fall within the purview of government. Finally, uncertainty arises from missing observations. As is common with survey data, not all information for every sector was made available by each country which participated in the initial questionnaire.

Random weights (RWs) have been hitherto employed to compute confidence intervals for MLIs and HLIs. This method relaxes all assumptions about the relative weights that should be attached to lower-level indicators when computing higher-level indicators. However, given that the RWs are drawn from a uniform distribution between zero and one, the mean indicator values are asymptotically equivalent to indicators using equal weights for all LLIs.

In order to account for other sources of uncertainty, namely unobserved sectors and missing observations, Kantorowicz and van Grieken (2019[5]) employ alternative methods to compute point-estimates and confidence intervals for higher-level indicators, using multi-level indicators computed by provider level. They implement two approaches: Bayesian factor analysis and country product dummies (CPD), which yield similar results. A technical description of the latter method is provided in Box 4.1.

Box 4.1. Combining multiple sectors into a synthetic indicator

Description of the country-product-dummy (CPD) approach

The CPD approach was originally developed for assessing purchasing power parity across countries. Applied to the spending autonomy of subnational governments, its main purpose is to tackle the problem of missing observations. As was noted in the methodological part, although a large overlap exists, we deal with different sets of countries across policy sectors, leading to a shrinkage of the sample when attempting to create the “balanced sample” composite indicator of spending autonomy.

The CPD method as applied in this study works as follows. In the first stage, we define the CPD model, which regresses observed LLIs on a country-fixed effect, autonomy dimension fixed effect, policy sector fixed effects and an error term. The estimates are obtained by OLS. The model is as follows:

$$LLI_{cai} = \alpha_c D_c + \beta_a AD_a + \delta_i P_i + \varepsilon_{cai}$$

Where *c*, *a,* and *i* are country, autonomy and policy indexes (the right-hand side contains only dummy variables); LLIs are the values observed for a given dimension of autonomy in a given country and policy sector. From the first-stage model, we obtain the predicted values for missing LLIs. In the second stage, we run another CPD regression by augmenting the predicted LLIs for unobserved LLIs (if the predicted values of LLIs are outside the range, the values are trimmed). The resulting alpha coefficients (α_c) from the second-stage regression reflect the country-specific level of overall spending autonomy of subnational governments. Constructed confidence intervals allow for assessing statistical differences between countries and, for instance, vis-à-vis the OECD average.

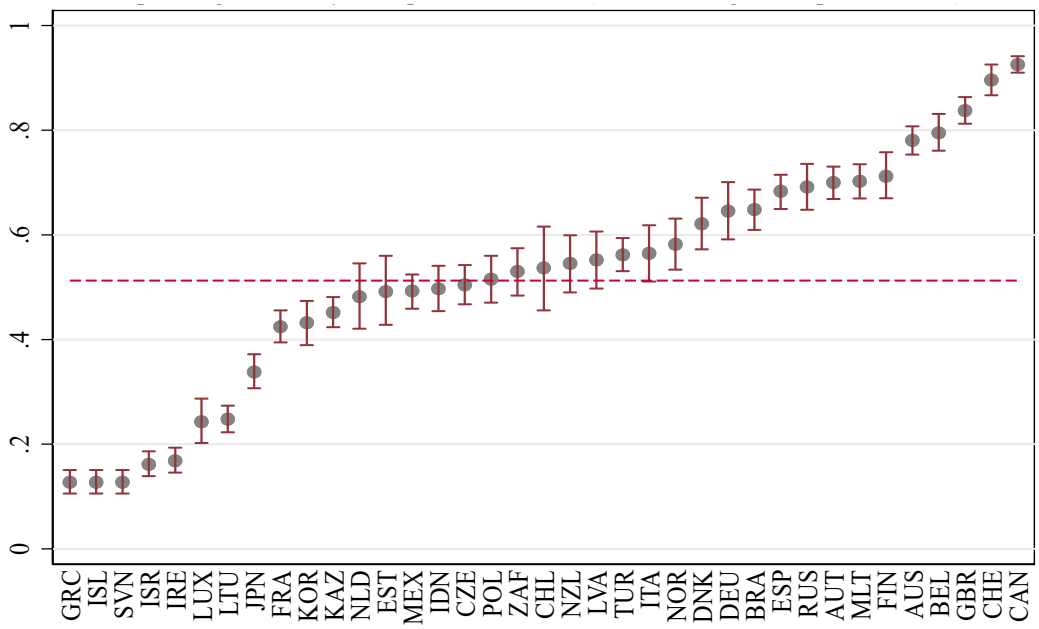
The CPD approach completes missing observations by regressing LLIs on several fixed effect variables and an error term. By using the results obtained to generate fitted values, it becomes possible to include additional countries for which data was otherwise missing. Subsequently, confidence intervals can be constructed using the standard errors generated through the regression analysis, which enables statistical inference in cross-country comparisons.

These approaches are applied to develop a composite spending power indicator for subnational governments that combines the HLIs across the five policy sectors, generating a single spending autonomy score for each country (Figure 4.21) on a scale of 0 to 1. More precisely, the CPD approach is first applied to generate the missing observations and generate confidence intervals, and is available in the Fiscal Decentralisation database. The dataset with missing observations generated is then subsequently employed to generate confidence intervals according to the random weights method.

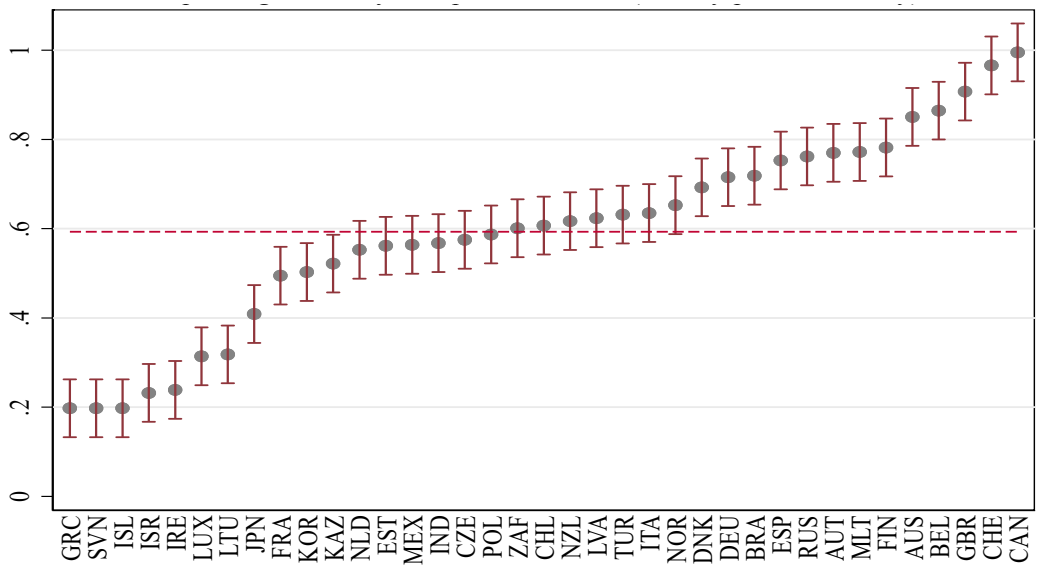
According to this composite measure, the average spending autonomy indicator is roughly 0.6. Countries such as Canada, Switzerland, the United Kingdom, Belgium and Australia obtain the highest scores. Among the countries with the lowest spending autonomy scores are Greece, Slovenia, Iceland, Israel, Ireland, Luxembourg and Lithuania. The Czech Republic, Poland, South Africa and Chile lie just around the average score. A comparable ranking is obtained if the scores are calculated by RW using the CPD-imputed values (Kantorowicz and van Grieken, 2019[5]). The advantage of RW over CPD confidence intervals is that RW provides variation around the point estimates, which informs to what extent spending autonomy is balanced across autonomy dimensions and policy sectors. Chile, the Netherlands and Estonia stand out as the countries with the largest variation of spending autonomy values, indicating that these countries show rather inconsistent degrees of autonomy across autonomy dimensions and policy sectors.

Figure 4.21. Composite indicators of spending autonomy

Panel A. Composite indicator of spending autonomy using the random weights approach



Panel B. Composite indicator of spending autonomy using the country-product dummy (CPD) approach



Note: The composite spending autonomy score is on a scale of most centralised (0) to most decentralised (1).
Source: Fiscal Decentralisation database; Kantorowicz and van Grieken (2019[5]).

StatLink https://stat.link/cpk1ed

The effects of decentralisation on service provision

Decision-making power and responsibilities for public services by subnational governments vary widely across countries, though very few countries around the world rely solely on services being devised and administered by central governments alone. Greater decentralisation to subnational actors increases the need for co-ordination in itself, but is even more necessary for policy areas where there is a lot of shared decision making. Shared responsibilities can be an issue when roles overlap, which generates inefficiencies in intergovernmental relations, and reduces transparency and accountability, as the public is unsure which level of government is responsible for the delivery of public services and government spending. The responsibility for public services are often shared across levels of government, more so in federal countries than unitary countries, either through explicit legislation or through residual policy acquisition (Bach, Blöchliger and Wallau, 2009[13]). Shared responsibilities make it more crucial to establish governance mechanisms to manage these joint responsibilities, including platforms for dialogue, fiscal councils and contractual arrangements.

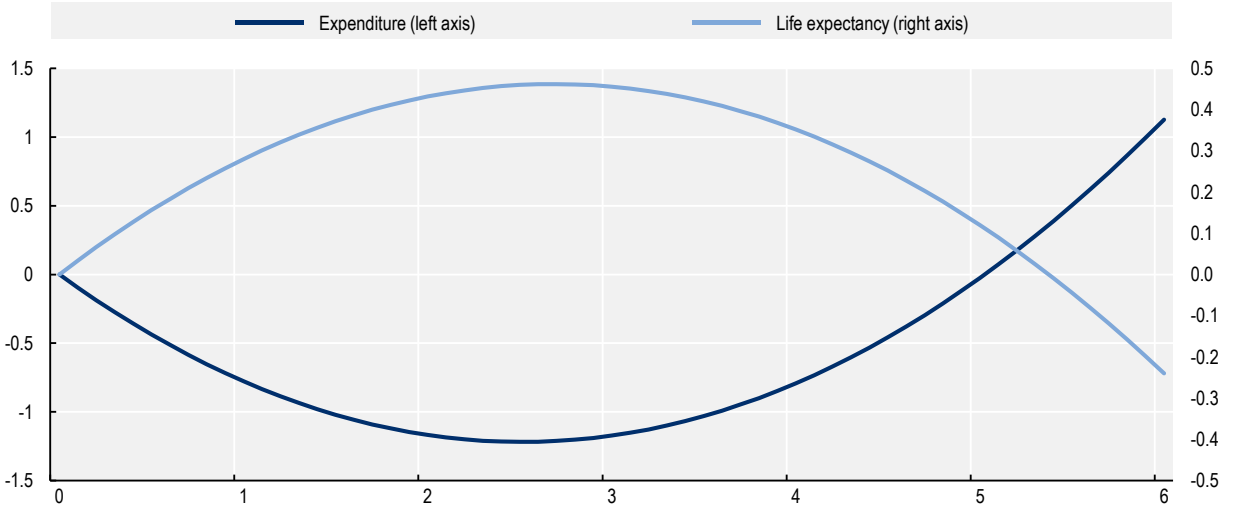
In the recent volumes OECD/KIPF (2018[17]) and OECD (2019[18]), the broad effects of decentralisation are considered. The literature and recent evidence suggests that the evidence can be fairly ambiguous at the whole-of-economy level, given strong country specificities and mixes of existing public service decentralisation. Thus, the marginal effect of centralisation or decentralisation reforms may have important effects on efficiency and equity, and an in-depth analysis is necessary. Nevertheless, in particular sectors, the evidence for potential improvements in outcomes through devolution can be considerably clearer.

The non-linear impact of decentralisation in health care

Decentralisation may allow for health systems to better target regional needs, while fostering good competition (Oates, 1999[19]); at the same time, taken too far, it can lead to fragmentation and overly high costs (Rodden, 2003[20]). Dougherty et al. (2019[7]; 2021[11]) carried out a novel empirical analysis aimed at exploring the role of institutions – notably the degree of administrative decentralisation across levels of government – in health care decision making, public spending on health care and life expectancy. To examine the relationship between the measured degree of decentralisation and public spending on health care and life expectancy, the study estimated a system of simultaneous non-linear equations, based on a micro-founded model. This empirical analysis also built upon earlier OECD studies.

The administrative decentralisation indicator and measures of other institutional features of health care systems such as financial incentives to improve quality and depth of basic coverage are used in the analysis of the impact of policy changes on public spending on health care and life expectancy. In order to carry out this analysis, a novel indicator of health care decentralisation was constructed over the 2008 to 2018 period, based on which level of government was responsible for thirteen policy or service areas. The resulting indicator yields a scale of 0 to 6, with 0 a fully central government decision, and 6 is a fully local government decision; shared decisions are scored with an intermediate value of 3. Marginal effects of varying degrees of decentralisation on public expenditure and life expectancy are shown in Figure 4.22.

Figure 4.22. Marginal effect of decentralisation on public spending on health care and life expectancy



Note: The horizontal axis is the decentralisation index, from the most centralised (0) to most decentralised (6). To generate the effective marginal coefficient values, the coefficients are applied to simulated values along the 0-6 scale of the decentralisation index.
Source: Dougherty et al. (2021[11]).

StatLink https://stat.link/dbn9s7

Several new findings emerge from this analysis:

- The results point to a statistically significant non-linear effect of "administrative decentralisation" on public health care expenditure and life expectancy.
- The sign and size of the coefficients suggest that a moderate degree of decentralisation reduces public spending on health care and increases life expectancy – saving public resources and improving the quality of outcomes – as compared to countries with very low decentralisation.
- However, "excessive" decentralisation is associated with higher public spending on health care and lower life expectancy – reversing cost-saving and quality-boosting effects – as compared to a situation with an intermediate degree of decentralisation.

Additional confirmatory estimates are also made using hospital microdata for almost a dozen countries, which include controls for specific disease groups (Dougherty et al., 2019[7]).

The impact of decentralisation in other sectors

Given the essential role of schools in the education sector, outcomes can be measured using PISA scores for 15-year-olds. Recent empirical analysis finds linear improvements with decentralisation, with a stronger relationship to revenues and tax autonomy than spending, as well as fiscal-administrative interactions, depending on school autonomy (Lastra-Anadón and Mukherjee, 2019[8]), as mentioned in Chapter 1 (Figure 1.4). At the same time, maintaining economies of scale plays an important countervailing role (OECD/EC-JRC, 2021[21]), both for education and healthcare. Note that the decentralisation of municipal organisations as a whole have also been found to yield improved outcomes in terms of labour productivity, conditional on high quality of local governance and low administrative fragmentation (Jong et al., 2021[9]).

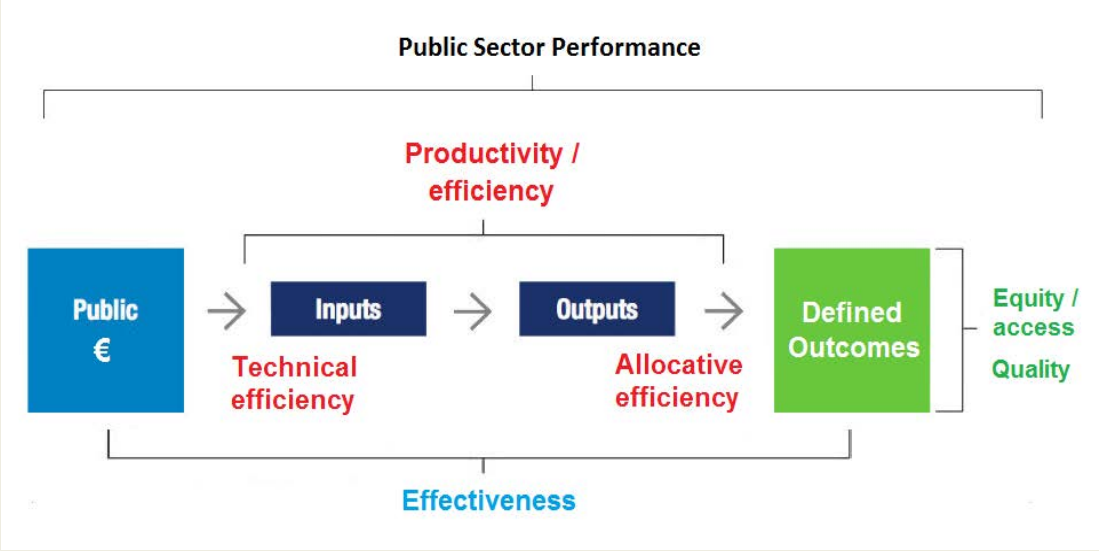
Box 4.2. Measuring public sector performance

Measurement of public sector performance is central to improving outcomes, yet it is also extremely challenging to do well. Measuring, assessing and enhancing performance is a valuable exercise across the public sector but especially in the context of countries with multiple layers of government. Within the public sector, performance improvements provide a means by which citizens can get better value for their taxes. By raising the performance of services, governments may also be able to respond to growing demand without having to resort to higher taxation or increased debt burdens – a particularly important consideration currently.

The concept of *performance* is linked to both the efficiency and the effectiveness of public service delivery. Service providers that lie at the production possibility frontier are seen as achieving 'best practice', which is linked to the concept of efficiency. There are a number of ways to define efficiency, however a distinction is often made between technical efficiency and allocative efficiency. It can also be linked to tracing technical change, identifying changes in efficiency, identifying real cost savings in production, identifying inefficiencies, and assessing standards of living.

Technical efficiency characterises a production process where the maximum possible output has been achieved, given a fixed set of inputs and a certain technology. The concept of technical efficiency is similar to the notion of productivity, defined as a ratio of a volume measure of output to one of input use. *Allocative efficiency* refers to the allocation of resources, either in financial terms or in labour-capital terms, and occurs when the input-output combination is cost-minimising. *Efficiency* more broadly is difficult to measure as it requires knowledge of the sector's production possibility frontier – that is, which providers are performing 'best practice' combinations. In practice, measurement of productivity is often a primary focus, since the best possible result that is achievable does not need to be known. A common metric is labour productivity, often calculated on the basis of output produced per labour hour worked, although broader measures may seek to use a cost-weighted set of outputs and inputs.

Figure 4.23. The relationship between public sector performance, efficiency and effectiveness



Source: OECD Secretariat.

Effectiveness is another critical component of performance of service delivery and is related to quality, equity and access. Effectiveness often aims to identify the intangible value attached to the service and measure its performance against that value. Integrating effectiveness can deliver a more comprehensive view of performance especially with regards to public sector services. In contrast to efficiency broadly the ratio of outputs to inputs, effectiveness is the ratio of *defined outcomes* to inputs, and conditional on the quality of service provision. When conceptualising the measurement of public service performance, the integral role of the consumer or citizen to the production process needs to be considered. This refers to the level of customer satisfaction but also to the *access* that citizens have to public services.

The concept of performance measurement is interesting to study from a lens of multi-level government. Over the past decades, many countries have delegated more authority and responsibilities to subnational governments (OECD/KIPF, 2016[1]; OECD, 2019[18]). Decentralisation can create competition which can lead to policy innovations, transparency and better performance. However subnational governments may lack the resources and expertise to tackle major projects, particularly those requiring co-ordination among governments and those that may be better suited to central administration. The economic, social and financial effects of decentralisation are still being debated especially as the benefits and costs often depend on locality specific circumstances and way decentralisation is designed and implemented (Jong et al., 2021[9]). Governance and oversight at the right scale depends on a number of factors including the types of services being provided, local government functions, public finance and even factors like trust in government and the history of government institutions (Krawchenko, 2021[22]).

With decentralisation comes a larger number of stakeholders and service providers, and greater complications in intergovernmental fiscal relations, which can intensify information gaps between levels of government. The creation of multiple public agencies can also make co-ordination more complex, hindering the central government's ability to steer public policy in the desired direction. Performance measurement systems can correct co-ordination failures that are likely to be exacerbated by decentralisation and create a common frame of reference.

There are heightened difficulties in assessing performance within the public sector given multiple objectives. Public organisations are responsible for the delivery of key services with the expectation that they will be provided efficiently, effectively, and equitably. The performance of public sector agencies and service providers drive or constrain the performance of state intervention generally, and impact the efficiency of public spending and policy making within key service sectors. While private sector services are expected to be provided cost-effectively or with a profit objective, the performance of public services is generally viewed through a broader lens of both efficiency and effectiveness including against policy objectives like equity and access. While all elements of performance are relevant, some will be more important than others depending on the service, which makes overall measurement and assessments more challenging.

Source: Dunleavy (2017[23]); Lau et al. (2017[24]); Phillips (2018[25]).

Benchmarking and monitoring of public sector performance

Indicators to measure performance

Benchmarking in different public service domains and contexts is often a useful tool in promoting ongoing improved performance (Phillips, 2018[25]). The effectiveness of a benchmarking system is in turn influenced by the selection of indicators that are used to benchmark service providers, which if not chosen carefully, can distort the incentives and policy objectives of participants. Moreover, participation in benchmarking or

performance systems can improve the collection and organisation of high quality data, resulting in governments improving their information base and performance metrics even before engaging in formal comparisons. The need to settle on common service objectives and performance indicators requires that these be given explicit and systematic consideration, which may be a novel development in itself and helpful in building a culture conducive to seeking improvement.

Productivity, efficiency and effectiveness are easily confused and can be difficult to separate (Box 4.2). While output measurement is critical for productivity or efficiency measurement, however, outcomes are integral to measuring the effectiveness or quality of services and provide a more comprehensive illustration of performance. For example, in the school education sector, it is possible that productivity could rise when measured by output metrics like student numbers or preferably hours of instruction, following a policy initiative to increase class sizes. But if this was accompanied by weaker learning outcomes, as reflected say in external test results or tertiary acceptances, performance in a more fundamental sense could have declined. The OECD PISA results are based on test scores of 15-year-old pupils, and represent a well-known example of outcome measurement of the performance of the educational system. Measuring outcomes is more necessary for services as opposed to goods, due to their intangible nature. Outcomes are also arguably more useful to assess for public sector sectors rather than those provided in the private market because the purpose of the public sector to achieve a set of desirable social or economic outcomes.

Measuring costs

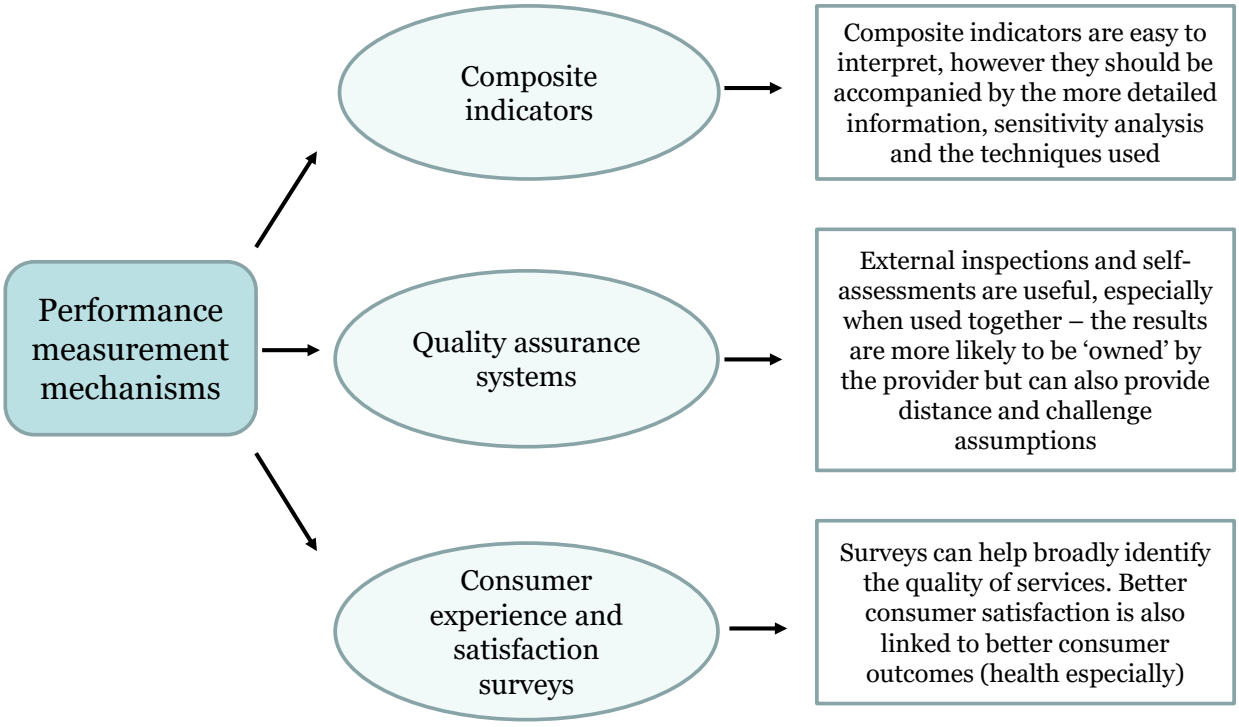
Benchmarking subnational or regional government service providers through a cost or price approach can provide useful information on which operators or regional governments are most cost-efficient. The dissemination of detailed regional cost information to sub-national governments may help reduce information asymmetries and reveal unjustifiable or avoidable differences in costs of services. Comparing the average costs across providers, some variations will be due to factors that are beyond the control of service providers, like geographical variations in consumer needs or differences in price and wage levels.

Compared to the private sector, the estimation of the actual costs of public sector activities is relatively complicated. Most public services are not bought and sold, and many government services are collective goods, like policing and environmental protection, which cannot be consumed individually (Lau, Lonti and Schultz, 2017[24]). Public sector accounts are typically not as detailed or disaggregated as those in the private sector, making it difficult to obtain information on all input costs. Alternatively non-monetary factors can be used, like the number of civil servants involved in a public activity, pupil to teacher ratios or construction costs per dwelling completed.

Composite indicators of performance

Composite indicators are an aggregate index comprising individual indicators and weights that represent the relative importance of each indicator (Figure 4.24). The construction of a composite indicator is not straightforward and the methodological challenges raise a series of technical issues. However composite indicators are much easier to interpret than trying to find a common trend in many separate indicators. Examples of composite indicators include ‘star ratings’ or ‘report cards’. These composite performance ratings have taken on great importance as they are often used to reward or penalise organisations. The transparent reporting and easy understanding of these can sharpen incentives for public service managers to do better, to the extent that greater public awareness about deficiencies leads to political pressure to address them.

Figure 4.24. Performance benchmarking approaches



Such indicators have proven to be useful in ranking regions or service providers in benchmarking exercises, however, they can send misleading policy messages if misinterpreted. Arguments in favour of composite indicators include focusing attention on important policy issues, offering a more rounded assessment of performance and presenting the 'big picture' in a way, which the public can understand. They provide an attractive option for accountability purposes, as it is easier to track progress of a single indicator over time rather than a whole package of indicators. Ideally sub-indicators should include output, process and outcome measures. Outputs are more immediate and are more representative of what is important to users. However, final outcomes are obviously important because they are a better indicator of the impact of government services.

However composites need to be published with indications of uncertainty to communicate the sensitivity of the reported measure and be supplemented with more detailed performance information or breakdown of the elements. This is because research suggests that rankings of performance indicators can be unstable and that subtle changes to construction, like weighting systems and aggregation rules, can cause large changes in rankings.

Consumer experience and satisfaction surveys

To achieve meaningful measures of service quality, central and regional governments are implementing measures of consumer experience and satisfaction, in order to identify specific domains of satisfaction or value, or to measure service performance against explicit national standards. Customer satisfaction measurement may also enable an organisation to understand the extent to which satisfaction with a service is influenced by factors outside its control and to understand what is really driving satisfaction with a service experience. Numerous researchers who focused on customer satisfaction have indicated that it is an emotional reaction influenced by the interaction of users' pleasure, expectations of performance, assessment of consumer experience, and consumer interests (Phillips, 2018[25]). In Denmark, a national performance target relating to student well-being was introduced in 2014, which generated the

implementation of a national survey on student well-being. Results from the survey are intended to help devise initiatives to enhance students' well-being.

Consumer satisfaction survey results, such as those derived from in-patient surveys in hospitals, are a useful type of performance measurement system. Hospital performance is becoming more focused on health education, patient empowerment, comfort, complaint mechanisms and continuity of care. Patient experience measures are a complement to quantitative quality measures, as long as the information is collected using psychometrically sound instruments, employing recommended sample sizes and adjustment procedures.

With regards to health care surveys specifically, patient-reported indicators of health system performance largely relate to patient-reported experience measures (PREMs, such as whether the patient feels they were adequately involved in important decisions about their care), and patient-reported outcome measures (PROMs, such as whether the patient is free of pain after an operation care). Some OECD countries are conducting PREMs surveys and, to a lesser extent, are experimenting with PROMs (Lau, Lonti and Schultz, 2017[24]). A number have found that patient reports of better patient-centred hospital care were significantly associated with better survival rates after treatment. These findings suggest that many aspects of service delivery that are outside the usual realm of quantitative testing are important for consumer satisfaction narrowly, and important for consumer outcomes more generally.

Systems to measure and assess performance

In most countries, subnational jurisdictions have a significant role in service delivery and regulation, but central governments share the incentive to see them perform well, being either ultimately responsible in whole or part to citizens, or seen that way by electorates. As a performance assessment and reporting mechanism, benchmarking has the advantage of flexibility, in that it can accommodate a variety of indicators and be progressively expanded or adapted over time. Indeed, many countries have reported the use of central government performance measurement systems, especially in the hospital and education sectors. Benchmarking can be a means by which a central government is able to overcome informational barriers to monitoring the performance of sub-national jurisdictions in order to improve transparency and rectify underperformance. National performance and benchmarking systems may be particularly sought when regionally administered services are largely centrally funded. As economies have evolved and markets have become more integrated, a number of services or activities previously regarded as 'local', increasingly have national ramifications.

The typical centralisation of monitoring and policy levers is also expected from an accountability and equity viewpoint. Fiscal decentralisation can obstruct the redistributive role of the central government. With high levels of subnational spending autonomy, the central government may not have sufficient resources to reduce any large income differences across the regions of a country. Centralised monitoring may be needed to reduce inequalities and ensure a broad access to services. Centralised monitoring and policy is also beneficial in the absence of strong local democratic processes, where subnational governments do not feel accountable for their spending behaviours.

The setting of national policy objectives, minimum requirements, oversight and benchmarking may be justified on the grounds that some services have broader national, and sometimes international, implications. In many countries the central government is responsible for setting these minimum requirements, especially with regards to health and education. National service requirements may be in terms of immunisation requirements in the health sector, setting curricula, education requirements of teachers and minimum access requirements in the education sector, or regulating education or training requirements in certain professions.

Collegiate systems

Collegiate (or collaborative) benchmarking is based on learning from best practices, as opposed to using 'naming and shaming' techniques. It generally involves consultation and collaboration between levels of government. Collegiate benchmarking is unlikely to involve the public dissemination of 'highstakes' performance information meaning that sub-national governments may be more likely to participate in these forms of benchmarking and share their experiences. Collegiate benchmarking will more likely be implemented if all levels of government perceive that it will lead to new or better information channels, improve policy effectiveness, or if they can share the additional resources and political leverage. Central governments can play an important role in facilitating knowledge and data sharing across regional governments and consolidating data sources.

A performance system based on collegiality is more likely to be amenable to regional governments in a federal, decentralised system. In Australia for instance, the central and regional governments undertake a collaborative exercise to produce an annual report on the performance of subnational service delivery (APC, 2021[26]). Benchmarking may also be voluntary rather than imposed by the central government, which may be more prevalent if sub-national governments are not heavily reliant on the central government for funding. For example, performance comparisons across local authorities in Germany are largely voluntary and self-managed. The Association of Local Government Management (KGSt), for instance, encourages voluntary participation from districts and municipalities, with the KGSt establishing voluntary benchmarking networks and a Common Assessment Framework to assess performance across governments.

Competitive systems

Competitive benchmarking aims to generate competition amongst regional governments by disseminating information and thus facilitating comparisons by citizens and voters. In fact, the performance monitoring of public services in many countries seems to have moved from using performance information to improve organisational processes towards transparency mechanisms to enhance accountability. While transparency of public services has increased, the availability of information is only useful if it actually achieves the long-term objective of improving the efficiency and effectiveness of or access to public services.

Some research suggests that this public dissemination of information is likely to improve service delivery though the best benchmarking system is debatable. Across many OECD countries, the public dissemination of performance information is seen as a useful component of benchmarking systems by central government in key service areas, including transportation, education and long-term care. If performance measurement and benchmarking is accompanied with public transparency, it can create competition between regional governments and service providers and thus lead to efficiency gains. Revenue and expenditure decentralisation creates competition among regional governments for mobile, tax-paying citizens, which have an incentive to move to regions that offer services and taxes that match their preferences (Tiebout, 1956[27]).

The role of "tailored" institutions for evaluation and oversight

In discussing the role of measurement systems and issues related to the decentralised provision of services, it was noted that their effectiveness in promoting better public sector performance can be significantly influenced by governance arrangements, institutional frameworks and other contextual matters. A variety of public institutions have been established in different countries specifically for the purpose of promoting or upholding public sector performance in key dimensions. Unlike regulatory agencies, although characterised by significant independence, they are generally limited to informational or advisory roles, and have no executive power.

This distinction is relevant to concerns expressed about the rise in the power of 'technocratic' or bureaucratic institutions and their potential to displace or undermine democratic structures. In the case of the institutions identified here, there is a case that by serving to promote transparency, accountability and better informed decision making by government itself, they are actually strengthening democratic governance.

The relevant institutions

The principal institutions in this category are: public sector oversight bodies, supreme audit institutions, fiscal oversight/reporting bodies, policy research and advisory institutions and regulatory oversight bodies. Such institutions have complementary roles across the policy 'cycle', from informing initial decisions, to monitoring implementation and administration, assessing programme performance and reviewing a policy itself and whether its objectives have been met.

There are also institutions that span jurisdictions or regions within a country, such as those responsible for advising on transfers for fiscal equalisation purposes, or co-ordinating and monitoring national reforms or other cross-jurisdictional policy initiatives. These tend to be more prevalent within federal systems of government, with few economic, fiscal or regulatory institutions having a "vertical scope" of responsibility (Dougherty, Renda and von Trapp, 2021[10]). One important exception is Spain's AIReF fiscal institution, which has a national mandate and provides important support at all levels of government and to regions.

A key benefit of decentralised government is the ability to address the needs and preferences of citizens more effectively, particularly where circumstances differ. A key risk in this approach is fragmentation and incoherence from diverse approaches may diminish outcomes in aggregate. A number of institutions have emerged during the COVID-19 crisis to reduce this risk and bring additional benefits from 'joined up' co-ordination. One of the more notable institutional innovations around the OECD was the adaptation of Australia's Council of Australian Governments (COAG) into a 'National Cabinet' (Box 4.3).

Box 4.3. Australia's National Cabinet

Australia co-ordinated actions across levels of government in order to tackle the COVID-19 crisis through the use of executive federalism (see Chapter 9). In the Australian case, the key body that was put to use to co-ordinate action was the Council of Australian Governments (COAG). This Council has brought together the Prime Minister and the Premiers of the States as well as the authorities in charge of sectorial policies from Ministries, territories and states. It existed prior to the COVID-19 pandemic, having been formed in the 1990s as part of the implementation of policy reforms and deregulation. In a typical year, the COAG had met once or twice in order to discuss relevant matters and to improve intergovernmental co-operation through joint decision making and oversight of the implementation of policies. Historically, the Prime Minister set the agenda and thus has a leadership role.

In the months following the pandemic outbreak, the COAG developed such a prominent role in managing the COVID-19 crisis that it was transformed into the "National Cabinet". Important changes were made in its governance to adapt to the severity of the crisis. The COAG organised meetings much more regularly – often on a bi-weekly basis. In addition, the scope of the discussions was widened to encompass multiple topics related to the COVID-19 crisis such as health, the economy, education, transport logistics, law and order, among others. In order to handle such a variety of topics, different councils that respond to the COAG were created, each involving authorities from specific sectors from different levels of government. These technical councils have been crucial to provide a technical position to the executive authorities, which are from both sides of the political spectrum and, thus, help to minimise political factors in decision making.

Source: de Biase and Dougherty (2021[28]).

References

APC (2021), *Report on Government Services 2021*, Australian Productivity Commission, https://www.pc.gov.au/research/ongoing/report-on-government-services/2021. [26]

Bach, S., H. Blöchliger and D. Wallau (2009), "The Spending Power of Sub-Central Governments: A Pilot Study", *OECD Economics Department Working Papers*, No. 705, https://dx.doi.org/10.1787/223123781022. [13]

Beazley, I. et al. (2019), "Decentralisation and performance measurement systems in health care", *OECD Working Papers on Fiscal Federalism*, No. 28, http://oe.cd/il/FFwps. [2]

Blöchliger, H. (2008), "Market Mechanisms in Public Service Provision", *OECD Fiscal Federalism Working Papers*, No. 6. [15]

Blöchliger, H. and D. King (2007), "Less than you thought: The fiscal autonomy of sub-central governments", *OECD Economic Studies* 43, https://dx.doi.org/10.1787/eco_studies-v2006-art12-en. [12]

de Biase, P. and S. Dougherty (2021), "Federalism and public health decentralisation in the time of COVID-19", *OECD Working Papers on Fiscal Federalism*, No. 33. [28]

Dougherty, S. et al. (2021), "The impact of decentralisation on the performance of health care systems: a non-linear relationship", *The European Journal of Health Economics*, http://dx.doi.org/10.1007/s10198-021-01390-1. [11]

Dougherty, S. et al. (2019), "The impact of decentralisation on the performance of health care systems: A non-linear relationship", *OECD Working Papers on Fiscal Federalism*, No. 27, http://oe.cd/il/FFwps. [7]

Dougherty, S. and L. Phillips (2019), "The spending power of sub-national decision makers across five policy sectors", *OECD Working Papers on Fiscal Federalism*, No. 25. [3]

Dougherty, S., A. Renda and L. von Trapp (2021), "Independent Oversight Bodies: Lessons from Fiscal, Productivity and Regulatory Institutions", in Plaatjies, D. (ed.), *Making Institutions Work*, HSRC Press. [10]

Dunleavy, P. (2017), "Public sector productivity: Measurement challenges, performance information and prospects for improvement", *OECD Journal on Budgeting*, https://dx.doi.org/10.1787/budget-17-5jfj7vb36p5c. [23]

James, C. et al. (2019), "Decentralisation in the health sector and responsibilities across levels of government: Impact on spending decisions and the budget", *OECD Journal on Budgeting*, https://dx.doi.org/10.1787/c2c2058c-en. [4]

Jong, D. et al. (2021), "A comprehensive approach to understanding urban productivity effects of local governments: Local autonomy, government quality and fragmentation", *OECD Regional Development Papers*, No. 11, OECD Publishing, Paris, https://dx.doi.org/10.1787/5ebd25d3-en. [9]

Kantorowicz, J. and B. van Grieken (2019), "Spending Autonomy of Sub-central Governments: Conceptualisation and Measurement", *Background paper to the Network on Fiscal Relations*, https://oe.cd/KvG19. [5]

Kim, J. and S. Dougherty (eds.) (2018), *Fiscal Decentralisation and Inclusive Growth*, OECD Publishing and Korea Institute of Public Finance, http://oe.cd/FDIG. [17]

Krawchenko, T. (2021), "Public sector and productivity: Governance at the right scale", *OECD-EC high-level expert workshop Productivity Policy for Places*, http://www.oecd.org/regional/W3-S1-Krawchenko.pdf. [22]

Lastra-Anadón, C. and S. Mukherjee (2019), "Cross-country evidence on the impact of decentralisation and school autonomy on educational performance", *OECD Working Papers on Fiscal Federalism*, No. 26, https://dx.doi.org/10.1787/c3d9b314-en. [8]

Lau, E., Z. Lonti and R. Schultz (2017), "Challenges in the Measurement of Public Sector Productivity in OECD Countries", *International Productivity Monitor*, Vol. 32, pp. 180-195, http://www.csls.ca/ipm/32/lau.pdf. [24]

Oates, W. (1999), "An Essay on Fiscal Federalism", *Journal of Economic Literature*, Vol. 37/3, pp. 1120-1149, http://dx.doi.org/10.1257/jel.37.3.1120. [19]

OECD (2019), *Making Decentralisation Work: A Handbook for Policy-Makers*, OECD Multi-level Governance Studies, OECD Publishing, https://dx.doi.org/10.1787/g2g9faa7-en. [18]

OECD (2018), *OECD Regions and Cities at a Glance*, OECD Publishing, Paris, https://doi.org/10.1787/reg_cit_glance-2018-en. [14]

OECD/EC-JRC (2021), *Access and Cost of Education and Health Services: Preparing Regions for Demographic Change*, OECD Rural Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/4ab69cf3-en. [21]

OECD/KIPF (2016), *Fiscal Federalism 2016: Making Decentralisation Work*, OECD Publishing, https://dx.doi.org/10.1787/9789264254053-en. [1]

Phillips, L. (2020), "Decentralisation and inter-governmental relations in the housing sector", *OECD Working Papers on Fiscal Federalism*, No. 32, http://oe.cd/il/FFwps. [6]

Phillips, L. (2018), "Improving the Performance of Sub-national Governments through Benchmarking and Performance Reporting", *OECD Working Papers on Fiscal Federalism*, No. 22. [25]

Rodden, J. (2003), "Reviving Leviathan: Fiscal Federalism and the Growth of Government", *International Organization*, Vol. 57/4, pp. 695-729, http://dx.doi.org/10.1017/s0020818303574021. [20]

Tiebout, C. (1956), "A Pure Theory of Local Expenditures", *Journal of Political Economy*, Vol. 64/5, pp. 416-424, http://dx.doi.org/10.1086/257839. [27]

WHO (2010), *World Health Report 2010: Health System Financing, the Path to Universal Coverage*. [16]

Note

[1] The OECD Fiscal Decentralisation database is available at http://oe.cd/FDdb.

5 Digitalisation challenges and opportunities for subnational governments

The world economy and societies are going through a digital transformation that goes well beyond computerisation and use of information and telecommunications technologies. This transformation is creating opportunities and challenges for all levels of government in the areas of tax and expenditure policy and administration, service delivery and fiscal-financial management, as well as regulatory practices and policies. However, governments – especially subnational ones or SNGs – often also face shortages of skills, equipment and physical infrastructure, while having to address emerging challenges in cyber security risk management and data protection. The digital transformation calls for co-operation among the different layers of administration in support of effective and efficient digitalisation of SNGs. This chapter reviews and discusses these opportunities and challenges.

Introduction

The digital transformation – which goes well beyond computerisation and use of information and telecommunications technologies – has opened opportunities and created new challenges for governments worldwide. It includes a number of interconnected and evolving technologies, which can be characterised as a digital eco-system (Figure 5.1):

- *The internet of things (IOT)*: Sensors connected to physical objects collect and transmit massive data that can be utilised by governments to improve a range of public services.
- *5G networks, high-performance computing, and cloud computing*: They allow the rapid transmission, processing, and cost-efficient storage and retrieval of "big data" generated by the IOT and other sources.
- *Big data analytics*: Techniques and software tools that are used for data mining and profiling
- *Artificial intelligence (AI)*: The ability of machines and systems to acquire and apply knowledge. AI facilitates the processing of data at enormous scales and accelerates the discovery of patterns in them.
- *Blockchain technology*: A distributed ledger in which individual transactions are recorded in blocks chained to one another chronologically, using advanced cryptography. The technology creates digital records of the transactions that are visible to everyone in the blockchain network and cannot be modified.

Box 5.1 summarises examples of digitalisation initiatives that have been undertaken at the subnational government level (de Mello and Ter-Minassian, 2020[1]).

Box 5.1. Key components of a subnational digitalisation strategy

Subnational revenue side

- **Digital reporting and communication systems** provide more possibilities to verify information.
- **Electronic invoicing** enhance states' capacity to enforce the state-level VAT.
- **Electronic payments systems** help to enforce consumption taxes.
- **On-line exchange of relevant information** between national and subnational tax administrations can facilitate the levying of subnational surcharges on the personal income tax.
- **The use of meters and sensors linked to computer systems** can enable the implementation of user fees.

Subnational spending side

- **Digital geographic information systems (GIS)** can aid in urban planning, the approval of construction permits, and parking controls.
- **Digital portals** facilitate residents' and tourists' access to relevant public services.
- **Public financial management information systems (IFMIS**) allow for the timely monitoring of SNG finances and appropriate policy responses to emerging risks of budgetary overruns for example.

Figure 5.1. The digital eco-system

Source: OECD (2019[2]), *Going Digital: Shaping Policies, Improving Lives*.

This digital eco-system is expanding rapidly and has the potential to ease many of the information constraints that affect government policies and operations, thereby allowing significant improvements in fiscal-financial management, the design of tax and expenditure policies, revenue administration and enforcement, and the delivery of public services (see the next sections for details).

However, there remains much potential for use of digital tools by individuals and firms to interact with government. This is all the more important at the current juncture, when the world is facing the challenges of containing the spread of COVID-19. Recent data collected by the OECD shows that less than 60% of individuals visit, or interact with, government websites, a share that is considerably lower than the 72% of individuals who use the Internet regularly for e-mail on average in OECD countries (OECD, 2019[3]). Moreover, the European Commission's (EC) Digital Economy and Society Index (DESI) scores a range of countries on various dimensions of digital performance, including connectivity, human capital (digital skills), use of Internet by citizens, and integration of technology and digital public services. The DESI index varies from 0 to 100 in ascending order of digital preparedness[1] and shows a wide variance worldwide, from around 75 in South Korea to under 40 (Brazil), with the average of the European Union countries at under 60. This is due in part to gaps in levels of education and skills required for people to thrive in a digital world, which vary substantially both across and within countries, but also unequal access among firms to digital technologies (Andrews, Nicoletti and Timiliotis, 2018[4]), as well as a lack of focus on user needs in government digital strategies.

At the same time, whereas potential benefits are considerable, digitalisation poses many challenges for governments. They include the capacity to (*i*) design and implement appropriate strategies for the digitalisation of government operations; (*ii*) ensure adequate digital inclusion of the population; (*iii*) carry out necessary supporting institutional reforms; (*iv*) safeguard the quality of information and address privacy

concerns; and (*v*) cope with some of its negative consequences, in particular the social costs of automation and the potential erosion of some traditional tax bases. There is an extensive and growing body of literature on these issues, both at individual country level and by international institutions, including the IMF, the OECD and the European Commission. Nevertheless, this literature focuses mostly on the national level of government. The purpose of this chapter is to highlight the opportunities and challenges created by the digital revolution for subnational governments (SNGs).

The chapter first looks at the opportunities and challenges for the SNGs brought about by the digital transformation, and then discusses how intergovernmental co-operation can help SNGs address the challenges and exploit as much as possible the opportunities.

Opportunities

The use of digital technologies can benefit SNGs on both the revenue and the expenditure sides of the budget. These are reviewed in turn in what follows.

On the revenue side

Digitalisation can enhance the level and quality of subnational revenues through a number of channels (OECD, 2019[5]).[2] First, digitalisation can enhance national revenues that are shared with SNGs by enhancing tax administration and compliance, particularly in areas such as the personal income tax and the VAT. National tax authorities are increasingly gaining access to vast amounts of information, including information that is internally generated as well as originating from other government agencies, from online sources and from the private sector—such as data on bank transactions and income from labour and non-labour sources. This is facilitated through the increasing use of digital reporting and communication systems, standardised reporting formats, electronic interfaces as well as enhanced analytical tools including a growing use of AI and machine learning. This improved access strengthens the ability of tax adminstrations to enhance voluntary compliance and to better target enforcement capacity by providing more possibilities to verify the information necessary for the calculation of the tax liability (on income, consumption, and wealth) of individual taxpayers (Gupta et al., 2017[6]).

Digitalisation also allows governments to track business activity more effectively and at lower cost. The Danish Taxation Authority is using machine learning to identify fraudulent firms based on VAT and corporate income tax returns. Also, the growing use of electronic invoicing, and the increased capacity of tax administrations to access and process the wealth of information and data generated by these invoices, greatly facilitate the enforcement of the VAT (OECD, 2019[7]). In Brazil, for example, the universalisation of electronic invoicing and the harmonisation of state taxpayer registries have enhanced the states' capacity to enforce the state-level VAT, thereby boosting their own revenues.

The availability of more granular information on the composition and distribution of the bases of the main national taxes can also help improve the design, in terms of equity and efficiency, of such taxes. Jacobs (2017[8]) provides a fuller discussion of the potential of digitalisation to improve the design and enforcement of national taxes.

Second, digitalisation can also enhance subnational own revenues in a number of ways. These are briefly reviewed in what follows.

Taxation of consumption

Consumption taxes, including VAT and retail sales taxes, are sometimes regarded as an appropriate revenue source for regional governments. However, consumption taxes may be difficult to enforce in countries characterised by highly fragmented retail systems, with many small or micro-establishments. The

mandatory use by retail outlets of cash registries linked to the relevant tax administration can remove an important obstacle to the adoption of consumption taxes. Box 1 in OECD (2017[9]) provides a number of examples of countries in which the introduction of mandatory cash registers yielded significant VAT or general sales taxes revenue gains. These countries not only include advanced economies such as Austria, Belgium, Canada, Hungary and Sweden, but also developing ones, such as Rwanda.[3]

The rapid diffusion of electronic payments systems – including electronic transfers of funds, credit and debit cards, and electronic wallets – has helped the enforcement of consumption taxes. Many countries now prohibit or discourage the use of cash for higher-value transactions, especially in real estate transactions and in construction services. Box 3 in OECD (2017[9]) and OECD (2017[10]) provide several examples in this area and point to estimates of significant revenue gains from the change in both advanced and emerging-market economies.

At the same time, digitalisation has given rise to new challenges in the taxation of consumption at both the national and the subnational levels. These pertain especially to e-commerce in goods, and particularly services (e.g. in entertainment), and to the emergence of electronic platforms for peer-to-peer (P2P) transactions, such as Uber, Airbnb, Amazon, and E-bay.[4] Indeed, while the tax authorities have long been addressing challenges related to use of cash in the economy, which complicates the traceability of transactions and facilitates fraud and evasion, the emergence and rapid development of digital platforms pose relatively new issues. Although the digital platforms can facilitate fraud and evasion, their on-line nature also presents an opportunity to deploy technology to tackle these challenges.[5]

Increasingly, national and subnational governments are requiring these digital platforms to collect and remit consumption taxes, including VAT and retail sales taxes on the transactions performed through them. The enforcement of these tax obligations could be greatly facilitated by legal requirements that the platforms provide access to the "big data" generated by transactions to the relevant tax authorities. The latter, however, need to equip themselves to analyse such data quickly and efficiently. Box 4 in OECD (2017[9]) provides a number of examples of how national and a few subnational tax administrations are coping with the challenges of taxing the P2P economy.

Subnational taxation of incomes

The on-line exchange of relevant information between national and subnational tax administrations – including the use of nationwide unique taxpayer identification numbers – can facilitate the levying of subnational surcharges on the personal income tax, which is another appropriate tax handle, especially for regional governments. It can also facilitate the enforcement of a regional income tax, distinct from the national one, which some regional governments prefer to a surcharge, because of the autonomy it affords in its design. This is, for example, the case in the United States.

Property taxes

Digitalisation is potentially of great value in the enforcement of property taxes, which are the mainstay of local taxation. The, by now ubiquitous, use of Google maps by local governments facilitates the identification of informal (unregistered) real estate properties and the updating of property cadastres. A correct valuation of properties for tax assessments is facilitated by a tax administration's on-line access to the cadastre, and by its ability to process and analyse large datasets from real estate transactions, to spot patterns, trends and outliers. As emphasised in the literature,[6] taxpayers' perceptions of arbitrary and unfair valuations are a major cause of litigation and social resentment of property taxes, contributing to their under-utilisation in most countries. The analysis of large data sets on property transactions can also help local governments better capture value increments created by the development of public or private infrastructures.

User fees

The use of meters and sensors linked to the computer systems of the relevant agencies or utilities can enable increased resort to user fees, which are also a frequently underutilised source of revenues for local governments, or their enterprises. Traffic sensors can also facilitate the levying of congestion charges, as is increasingly done in large metropolitan areas, such as London and Singapore.

Promoting voluntary compliance

Finally, but importantly, the digitalisation of subnational tax administrations can promote voluntary taxpayers' compliance in several ways. This includes increasing taxpayers' perception of the tax authority's ability to obtain relevant information (e.g. from banking and other records), and reducing tax compliance costs, which can be achieved through easier taxpayer access to tax information (e.g. through on-line portals, including detailed Q&As on tax issues) and on-line tax filing and payment facilities.

Regional and many large and medium-sized local governments worldwide have invested in recent years in building or refining on-line tax administration portals.[7] In addition to providing general tax information, and access to filing and payment facilities, some of these portals allow the taxpayer to access their individual tax records and obtain the related documentation. Most tax administrations make these portals also available to smartphones users through apps, thus substantially increasing the number of potential users.

On the spending side

Digitalisation also creates opportunities to improve how SNGs carry out their assigned spending responsibilities. First, digital technologies can help improve the targeting and enforcement of existing spending policies, as they offer tools to monitor outcomes directly, for example through linked sensor technologies, and to lower the administrative cost of data production and dissemination, which is essential for effective targeting of social transfers. Second, they can help improve policy design and evaluation by broadening the range of instruments available to governments for policy experimentation and evaluation, and by lowering their cost. Third, they can help strengthen government-citizen interactions, by facilitating stakeholder engagement, and making data more readily available, which can enhance accountability in the public sector. Some of the specific ways in which digitalisation can help improve subnational spending are briefly reviewed in what follows.

Use of sensors in the delivery of public services

The IOT, and the capacity to process, analyse, and shape policy responses to the big data that it generates, have a vast potential to enhance the delivery of subnational public services. For example, traffic sensors can provide urban transit authorities the information necessary to change the duration of traffic lights to minimise congestion. They can also help monitor the usage and state of roads, thereby optimising the prioritisation, timing and delivery of road maintenance, repairs, and new construction.

Similar considerations apply to the delivery of services like mass urban transit, water and sewerage, street lighting, trash management, irrigation systems, and agricultural extension services. The use of smart meters and dynamic pricing of electricity can help alter households' and businesses' patterns of power consumption, increasing energy efficiency. The growing use of such digital technologies not only in advanced but also in developing countries attests to their potential in all the above-mentioned areas.

Use of digital geographic information systems (GIS)

Various types of digital geographic information systems (GIS) are useful tools for urban planning, the approval of construction permits, and parking controls. GIS can also be used to identify emerging weather

or health-related risks, thereby helping optimise the nature, localisation, and timing of preventive or corrective measures. The use of unmanned aerial vehicles facilitates geospatial surveying, more accurate and cost-efficient air and water pollution monitoring, and early warning for floods, fires and other types of natural disasters. Geospatial surveying can also help identify areas of greatest incidence of communicable diseases, helping isolate them and minimise the spreading of the diseases.

E-health services

Digitalisation is also making inroads in the provision of subnational health services. E-health services can be especially beneficial in remote or other underserved areas where doctors and other health care providers can be difficult to access. Smartphone-based health apps can be used to allow continuous monitoring of patients, interactions between patients and health professionals, and to provide real-time feedback from prevention to diagnosis, treatment and monitoring. Progress in these areas does not depend on technology alone but requires new organisational structures in the public administration and efforts to make these new ways of providing services acceptable to the population. Preparedness in this area is particularly important as the world faces the need to contain the spread of COVID-19 while minimising the economic costs associated with containment.

So far, finding information and making appointments online are the most widely available digital services at the local level. More advanced eHealth solutions like e-prescriptions, access to online medical records or telemedicine are less frequently offered by local governments. Digital healthcare services and solutions are more likely to be provided at the regional or national levels. The results of a survey of the use of digital information systems by local governments in various EU countries (ESPON, 2017[11]) suggest that the level of digitalisation in health services is relatively high in larger cities in northern Europe, but rather low in other regions.

Digital services in education

Digitalised education services are primarily provided at the local level. In Europe, northern and western cities are leading the digital transition in this area. Northern cities in particular provide a very wide range of digital services with online applications for admission, online monitoring of progress, and learning materials made available on-line. PCs and interactive displays are widely used in primary education classrooms in advanced countries and many emerging-market economies, especially in cities and larger towns.

The digital transformation can also facilitate improved provision of education services in rural areas. For example, schools in rural Finland provide elective classes through teleconferencing technologies. Lessons in one school are streamed to classrooms in other schools, where students interact remotely with the teacher. This allows the schools to offer elective classes, such as foreign language classes, which do not have a sufficiently large number of students in a single school (OECD, 2019[12]). Likewise, the COVID-19 crisis holds much potential to accelerate the digital transformation in the education sector, given the closing of schools and universities for more than one billion children and youths worldwide.

Digital portals

Digital portals are increasingly used by regional and local governments to facilitate residents' and tourists' access to relevant public services, such as on-line licensing, building permits, downloading of official documents, and culture and sports-related services. For example, Ireland has set up an electronic National Building Control Management System (BCMS) involving the central government, industry and the local governments to improve the efficiency and effectiveness of building control management, oversight and enforcement processes. Other country experiences are worth noting. For example, the Spanish region of Murcia has created a platform (with tools enabling product design, price quotations, scheduling and sales to professional channels and target audiences) to make it easier for tourist companies to access services related to the regional tourism industry. In Portugal, the Citizen's Portal is the central channel to access

electronic public services delivered by both central and local government, thus facilitating the relationship between citizens, business and public administration.

Across OECD countries, access to government services through digital portals has tripled since 2006, with around 36% of OECD citizens submitting forms via public authorities' websites in 2016 (OECD, 2017[9]). The ESPON survey suggest that, on average in the sample, the degree of digitalisation is larger for local services in spatial planning, construction, tourism and culture and sports, and smaller for social services (ESPON, 2017[11]). The same survey suggests that across the EU, the digitalisation of services has somewhat or even substantially reduced operating costs for 85% of cities.

Electronic payments for subnational services and transfers

The use of electronic payment services can help reduce bureaucratic inefficiencies, fraud, and corruption in SNG's payrolls and social assistance programmes, as documented by a number of country case studies.[8] The ability of qualifying citizens to register on-line for social assistance can reduce the social stigma attached to its use, thereby increasing its take-up. At the same time, automatic electronic exchange of information among different agencies involved in the administration of subnational social assistance programmes is essential to weed out non-qualifying recipients. Digital monitoring of workers' attendance helps the control of SNGs' payrolls by, for example, curbing absenteeism in health and education services, and the incidence of ghost workers, especially in developing countries.

E-procurement

Digitalisation can also play an important role in improving the transparency and efficiency of SNGs' procurement operations, provided that the underlying legislation and regulations are in line with good international practice, and are systematically applied.[9] The latest wave of the OECD Product Market Regulation (PMR) Indicators, which covers OECD member countries and an increasing number of emerging-market economies, shows that in several countries purchasing agencies are not required to provide information and documentation on-line in a systematic manner, thereby creating information and transactions costs for potential bidders that thwart competition.

Digital information systems

The implementation of well-designed digital public financial management information systems (IFMIS) is key to allowing timely monitoring of SNG finances and appropriate policy responses to emerging risks of budgetary overruns, arrears, or significant delays in the execution of spending programmes, especially investments. Of course, as emphasised in the relevant literature,[10] the quality of IFMIS reflects that of the entire PFM system: computerising inadequate budget preparation, execution, accounting and reporting processes will not generate reliable information on an SNG's finances.

Open government and transparency

Digitalisation is also a potentially powerful tool to make government more open and participative. So-called "e-Democracy" has become even more relevant in the context of COVID-19, with many countries moving to allow parliaments, as well as municipal and regional councils, to debate and vote on-line. In the context of the pandemic outbreak, the potential of on-line voting, as well as the potential security challenges, become even more relevant.[11]

The on-line availability of timely information on a broad range of subnational operations can also facilitate civic involvement and the accountability of local officials. A number of large cities, including Barcelona, Chicago, Paris, São Paulo and Toronto, to name but a few examples, have sought to leverage such openness into engagement through participatory budgeting initiatives, although challenges remain.

However, the realisation of these potential benefits depends crucially on the relevance, quality and user-friendliness of the information being generated by the digital systems and made available to the public. Therefore, early involvement of key stakeholders (CSOs and other groupings of users of public services) in the design of those systems is important for their effectiveness.

Use of social media

Both national and subnational governments worldwide are experimenting with social media, given its increasing uptake in society and as part of their e-government strategies. For example, the top executive institutions in countries such as Ecuador, the United Kingdom and Chile have a community of Twitter followers that reaches a significant proportion of the domestic population. In the United States, two thirds of counties and municipalities had an official social media presence as early as 2011. In the United Kingdom a 2012 survey reported that over 90% of local councils have a Twitter account, over 80% a Facebook account, over 50% a Flickr account to share pictures; only 3% of local councils reported having no social media presence at all.

However, few governments in OECD countries have a dedicated strategy for institutional use of social media and consider social media mainly as a tool to improve public communications, rather than service delivery. Uptake and choice of particular platforms depend on the national or local context. For example, in 2012 a survey of 75 larger municipalities across Europe found that only 32% had a Twitter account, 30% were on YouTube, and only 16% on Facebook. At the same time, over half of these municipalities operated a blog (Bonsón et al., 2012[13]).

Challenges

As discussed above, governments face a number of challenges when embarking on, or expanding, digitalisation. Some of these challenges are common to all levels of government, but challenges are often greater for SNGs, given the fact that they generally face tighter human, physical, and financial resource constraints, and that the severity of such constraints varies significantly across the national territory. Moreover, digitalisation efforts often bring into starker relief flaws in multi-level governance and in the intergovernmental fiscal relation arrangements. This section briefly discusses the main challenges in subnational digitalisation.

Human resource constraints

Scarcity of relevant skills can be a major obstacle to successful digitalisation by SNGs. For instance, some 40% of respondents to the above-mentioned ESPON survey identified skill scarcity as a major constraint on digitalisation. A 2018 survey of Australian local governments revealed critical skills and capacities shortfalls, particularly among smaller and more rural authorities (Australian Local Governments' Association, 2018[14]).

The human resource constraint can manifest itself in a number of ways. First, and possibly most importantly, a limited understanding by local leaderships of digitalisation options and their potential benefits and costs can result in a lack of strategic vision for the digitalisation process, including the definition of clear priorities, realistic timetables, and the assignment of adequate budgetary resources. A high-level leadership commitment is also crucial to ensure that the coherence of the process across the whole administration is not jeopardised by bureaucratic turf wars.

Second, SNGs, especially the smaller ones and those located in remote areas, are likely to be even less competitive than national administrations in recruiting and retaining workers with the appropriate IT skills, especially in countries where such skills are scarce, and are therefore able to command higher

remuneration from the private sector. Of course, subnational capacities in this area are likely to be weaker in poorer regions and cities, and in rural communities.

IT skills requirements include not only those for the design, implementation, and maintenance of digital systems (such as software development or customisation, cybersecurity, machine-learning programming, etc.), but also for their use by non-IT government workers. Meeting the latter requirements, in particular, typically necessitates significant investments in training of subnational civil servants, and the cost of such training should be adequately factored in when designing a digitalisation strategy.

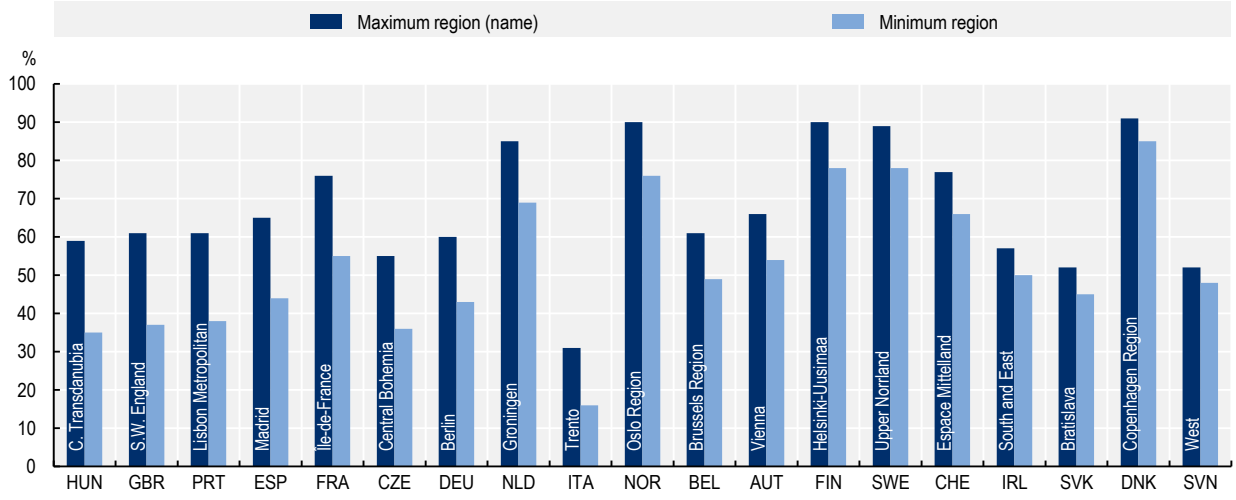
Finally, but no less important, SNGs need to adapt their digitalisation strategies to the degree of IT readiness in their population at large to avoid the risk of deepening existing inequalities in citizens' access to public services. For example, a shift to the payment of social security benefits and transfers exclusively through mobile phones should be contingent on evidence that a vast majority of intended recipients have access to such phones and adequate familiarity with the relevant capabilities. A shift to on-line payment of subnational taxes and user fees may have to be optional, at least until there is adequate evidence that taxpayers can avail themselves of such a facility. Similar considerations apply to other on-line services, such as licensing, official certifications, etc.

Physical constraints

A lack of adequate IT infrastructure (access to broadband services) can hamper digitalisation, especially in rural communities and more remote regions, where low population density results in high fixed investment and maintenance costs in digital technologies.

Figure 5.2. Regional variation in population using the internet for public services

Percentage of total population, 2017



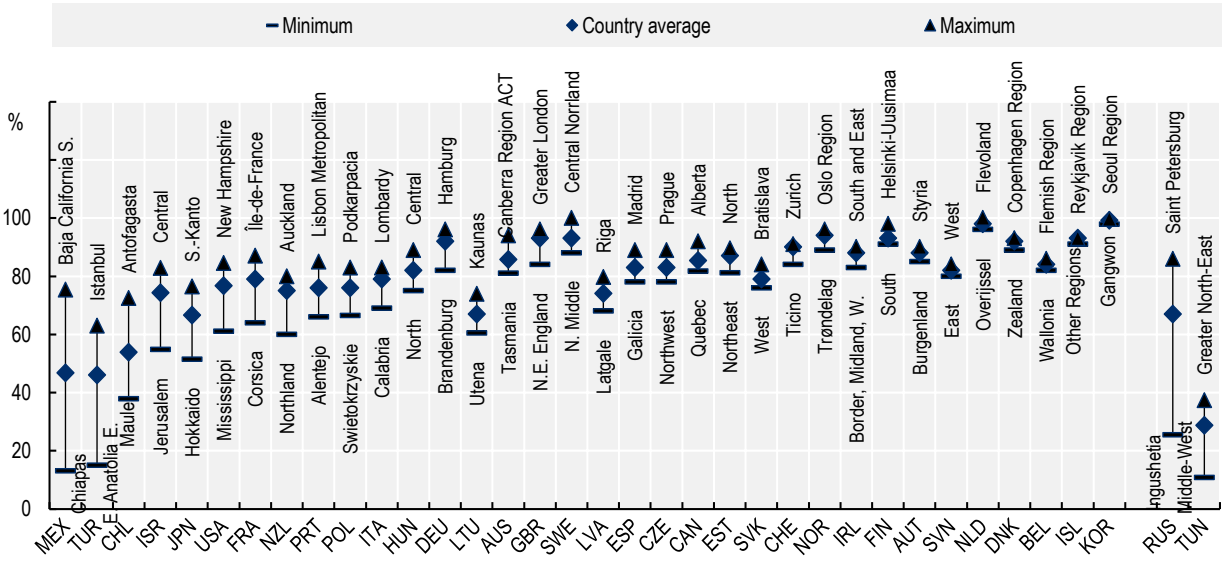
Note: Share of individuals who used the internet for interaction with public authorities. Countries are in order of regional differences.
Source: OECD (2018[15]), *OECD Regions and Cities at a Glance 2018*.

StatLink https://stat.link/x8rlmf

Indeed, access to, and use of, the internet varies significantly within countries in the OECD area (Figure 5.2), suggesting that digitalisation strategies at the level of individual SNGs need to be accompanied by nation-wide initiatives to tackle the digital divide within countries (Figure 5.3).

Figure 5.3. Regional variation in the share of households with a broadband connection

Percentage of households, 2017 or latest available year



Note: Latest available year 2017, except Korea, Mexico and Poland, 2016; Australia, Canada, Estonia, Israel, Japan, Latvia, Lithuania, Russian Federation and United States, 2015; Tunisia, 2014; Chile, South Africa and Turkey, 2013; Iceland and New Zealand, 2012.
Countries are in descending order of regional differences.
Source: OECD (2018[15]), *Regions and Cities at a Glance 2018*.

StatLink https://stat.link/r6we8y

Funding constraints

Nevertheless, the budgetary space for funding large IT investments is severely limited for many SNGs. Regions and cities with smaller or more volatile own revenue bases, or highly dependent on discretionary or earmarked national transfers, may not be able to ensure adequate funding for digitalisation initiatives that involve relatively large, multiyear investments.

A recent EU-sponsored survey of local government in Europe found that, while most large and many medium-sized cities have dedicated IT budgets, funded by own and shared revenues, small cities and rural communities are largely dependent on national or EU grants to finance their digitalisation initiatives. Unsurprisingly, over 60% of survey respondents identified the lack of funding as the main constraint on their digitalisation efforts (ESPON, 2017[11]).

Incidentally, in its 2014 Recommendation on Digital Government Strategies, the OECD emphasised the need to secure adequate funding for the implementation of digital strategies at all levels of government. It argued for articulating the value proposition for all projects above a certain budget threshold to identify expected economic, social, and political benefits that can justify public investments, and for involving relevant stakeholders (including other levels of government) in the design of the projects, to promote buying-in and an appropriate sharing of costs and benefits.

Other challenges

Other challenges confronting SNGs in their digitalisation efforts include:

- Identifying and enacting the legal and regulatory changes needed to support the digitalisation process. This includes, for example, the need to secure unfettered electronic access to relevant sources of data, to acquire and retain necessary skills, and to allow the use of electronic means to carry out and validate interfaces with taxpayers and users of public services. Some of these changes may require the concurrence of higher levels of government, pointing to possible needs for changes in multi-level governance.
- Identifying and tackling relevant cybersecurity risks, a challenge that appears to be inadequately met by many SNGs.[12] Individual SNGs need to develop strategies tailored to their specific circumstances to define priorities for their cybersecurity, taking into account the severity of the impact of different threats, as well as the foreseeable respective costs of prevention and remediation. They would need a dedicated appropriately skilled team for this task and to ensure a prompt response to new emerging risks.
- Adequately addressing citizens' privacy concerns. There is an inevitable tension between the objectives of providing open access to granular government data, and of protecting the privacy of information regarding individuals and businesses.[13] The case of testing, tracing and tracking through digital devices to contain the spread of COVID-19 is a case in point, where the local governments are in many cases actively involved in these efforts, and privacy/confidentiality concerns are prompting important debates among policy makers. The appropriate balance between such objectives is likely to vary across SNGs, reflecting in particular the level of citizens' trust in their governments, which is in turn influenced by social and cultural factors, and by historical heritage. This highlights the importance of adequate stakeholder involvement in the design of the digitalisation strategy.

This brief review of challenges in subnational digitalisation makes all the more evident the need for the efforts to be guided by a well-structured overall strategy. This strategy should begin with a stocktaking of the initial state of digitalisation, including existing legacy systems, the physical connectivity infrastructure, and the availability of skills and financial resources. Within these constraints, SNGs need to define priorities (e.g. which public services should be digitalised first), identify needs for legal and organisational supporting changes, define responsibilities for different tasks, set up realistic timetables for implementation, appropriate the necessary budgetary resources, procure any needed skills and material, and closely monitoring implementation. Early involvement of the main stakeholders in the process, and a clear communication to the public at large of its expected results, are key to securing citizens' support for the digitalisation effort.[14]

The role of inter-governmental co-operation

Co-operation among and within different levels of government can play a significant role in supporting effective and efficient digitalisation of SNGs. The case for support by the national government is made more compelling by the fact that, as mentioned above, different SNGs are differently equipped to meet the challenges of digitalisation. Smaller and poorer urban, and especially rural, communities are more likely to suffer from skill shortages, limited connectivity, and scarcity of budgetary resources. In other cases, policy innovation is an important area for inter-governmental co-operation in the digital sphere, with considerable potential for SNGs to launch pilot programmes that can be tested and subsequently up-scaled to other same-level jurisdictions and levels of administration through gradual experimentation.

Thus, in the absence of support from the national government, the digital revolution is likely to widen spatial and income inequalities within a national territory. Moreover, digital divides tend to be self-reinforcing.

Business and skilled people tend to move to locations that have better connectivity and greater ease of access to digitalised public services. This erodes the tax base of the communities left behind, making it more difficult for them to catch up technologically.

Against this background, the national government can support SNGs' digitalisation efforts in a number of ways. In particular:

- By ensuring that SNGs, at the regional as well as the local levels, are assigned appropriate sources of own revenues to meet the budgetary requirements to make the most of the digital transformation, and that the incentives to use such sources are not blunted by a soft budget constraint. This will enable the more prosperous SNGs to fund all or most of their digitalisation spending.
- By ensuring that the overall system of intergovernmental transfers is reasonably equalising. This may be best achieved through a mix of formula-based transfers and special-purpose grants (including capital grants) that reflects the specific characteristics of territorial disparity in each country and the preparedness of different jurisdictions to meet the challenges of the digital transformation.[15]
- By giving adequate weight to the objective of digital inclusion across the national territory in its own infrastructure investment decisions. For example, the Canadian government announced in its 2019 budget additional funding to extend broadband infrastructure to rural and remote communities. Another example is Australia's National Broadband Network (NBN), a federal crown corporation that has made significant strides in reducing the urban-rural gap in that country through various partnership arrangements with both other government levels and private industry.
- By ensuring that subnational spending responsibilities are clear and that SNGs have adequate autonomy in carrying them out, including some flexibility in managing their payrolls. A degree of asymmetry in the devolution of spending responsibilities can also help reduce risks of digital exclusion of weaker-capacity communities.
- By defining appropriate nation-wide standards to facilitate seamless interfaces among the national and subnational digital systems. This would facilitate the exploitation of relevant big data by all levels of government, to improve tax enforcement, the administration of social benefits and other public services, and the identification of risks, including for privacy and cyber-security.
- A leading example in the adoption of an integrated digital platform for the provision of public services is Estonia. Its X-road enables secure Internet-based data exchanges among public and private information systems.[16] The X-Road utilises blockchain-like technology and has now been replicated with variations by a number of advanced and developing countries. Denmark is another example of a country that has sought to foster a common digital architecture across all government levels in order to support 'digital coherence'.[17]
- By providing technical assistance and training to subnational officials to share lessons from their own experiences with digitalisation, and to help them design and implement successful digitalisation strategies. For example, in Brazil the federal government has provided substantial support to the modernisation and digitalisation of state tax and budget administrations through the *Profisco* programme.

Realising the potential for such co-operation is likely to require in many instances significant institutional and socio-cultural changes, with attendant resistance by many affected parties. Understanding by high-level national policy makers of the potential benefits of inclusive and efficient subnational digitalisation is key to its success. It is also crucial that nation-wide digitalisation strategies be fully owned by the subnational authorities, rather than being seen as driven by the national government. This highlights the usefulness of dedicated vertical co-operation forums where priorities, standards, resource requirements and other relevant issues can be debated in an open and timely manner, before decisions are crystalised.[18]

Horizontal intergovernmental co-operation has grown rapidly in recent decades, taking a number of forms ranging from limited-purpose arrangements, such as inter-municipal consortia for the delivery of local services, to the creation of inter-municipal communities and of metropolitan governance structures.[19] Regional and local governments' associations have taken increasing roles as forums for dialogue among the respective participants on issues of common or conflictual interest, and as representative interlocutors with the national government on such issues.

Horizontal co-operation can also support effective and efficient subnational digitalisation. SNGs embarking on or expanding their use of digital technologies can benefit from lessons and experiences by other SNGs that have progressed further in the process. Peer support can include demonstration effects, technical assistance, and cross-training of officials. Efficient digitalisation also benefits from interfaces among subnational systems, in particular between adjacent communities, such as those in metropolitan areas that straddle local government borders, and between a regional government and its constituent localities, enabling smooth on-line sharing of information.

Dedicated forums for inter-regional and inter-municipal dialogue on digitalisation issues (multi-level digital boards), possibly under the umbrella of the broader horizontal co-operation forums mentioned above, can be instrumental in facilitating both the exchange of experiences and the formation of consensus on the issues.

A successful example of such a horizontal co-operation forum is the *Encontro Nacional de Coordenadores e Administradores Tributários Estaduais (ENCAT)*, which was instrumental in the development and adoption of the electronic VAT invoicing system in Brazil, discussed briefly in Box 5.2. The system is widely recognised to entail major benefits for both the state tax administrations, by reducing fraud and evasion of the state-level VAT (the *ICMS*), and for taxpayers, by reducing risks of cargo losses and theft, and by speeding up controls of inter-state trade. Moreover, information about prices of traded commodities can be used in public procurement, and also by private agents to reduce purchase costs.

Box 5.2. Brazil's experience with the electronic invoices and other systems to track goods in transit

Many countries around the world have moved to electronic invoices particularly to facilitate and enhance VAT compliance. Since typically the VAT is a national-level tax, the national tax administrations have put in place and maintain the related IT system. Brazil offers a distinctive example of use of the electronic invoice system at the subnational level. The creation and maintenance of the system constitute a good example of intergovernmental co-operation in a country that, in other respects, is sorely in need of strengthening co-operation to reform its complex and highly distortive consumption taxes system.

The electronic invoice system was developed in Brazil under the auspices of *ENCAT*, a horizontal co-operation forum among state-level tax administrators, which acts as technical secretariat for the *CONFAZ*, a council of state-level finance secretaries, and promotes dialogue and dissemination of best practices among its members. The development of the system began in 2006 and posed major technical challenges, given the territorial extension of the country and the number of transactions subject to the *ICMS*. By mid-2017, the system had processed more than 17 billion invoices, emitted by more than 1.4 million taxpayers.

The system links in a network available 24 hours per day, 7 days a week, the IT systems of the 26 states and the Federal District. The seller of a good subject to ICMS inserts into the system of his state of origin the electronic invoice for the transaction in a standardised format, which includes the specification of the buyer and his/her state. The system of the originating state, following appropriate validity checks, authorises the transaction and transmits the relevant information to the state of destination. The electronic invoice accompanies the merchandise throughout its journey to destination. A complementary system, using transponders and more recently imbedded electronic chips, tracks cargo movements throughout the country.

Conclusions

The rapidly expanding eco-system of advanced digital technologies (high-speed computing, big data, AI, IOT, blockchains, etc.) creates significant opportunities for all levels of government to raise more and better revenues, and to improve the delivery of public goods and services. This chapter has focused in particular on such opportunities for SNGs, which, given ongoing worldwide trends in decentralisation, are increasingly responsible for substantial shares of government spending.

Digitalisation can help improve both shared and own subnational revenues. Especially promising are possibilities to (*i*) strengthen the enforcement of, consumption taxes, subnational personal income taxes or surcharges on national ones; (*ii*) make more efficient and equitable the administration of local property taxes; and (*iii*) better utilise user fees for local services.

Advanced digital technologies can also help improve the quality and efficiency of subnational spending. Of particular interest are the use of (*i*) sensors to control traffic, the maintenance of regional or local infrastructures, the use of water and sanitation, etc.; (*ii*) geographic information systems (GIS) to pinpoint potential environmental and health risks; (*iii*) digital portals to facilitate SNGs' communication with their population and the delivery of certain public services; and (*iv*) well-designed IFMIS to strengthen all aspects of subnational PFM and facilitate subnational transparency and accountability.

Digitalisation also poses significant challenges for SNGs, whose capacities to deal with such challenges can be expected to vary widely both across and within countries. The most important constraint in many SNGs is likely to be the scarcity of requisite skills, not only in the government leadership and bureaucracy, but also in the population at large. Lack of skills breeds, in turn, distrust and resistance to digitalisation. Other significant constraints can be posed by inadequate physical infrastructure and funding to improve it. Tackling cyber security risks, and adequately addressing citizen's privacy concerns constitute further significant challenges.

Less recognised, but also important, are legal or regulatory constraints, especially in federal or decentralised settings, where the risk of domestic regulatory fragmentation is highest. The coexistence of multiple regulatory regimes raises the scope for arbitrage and may create regulatory barriers to trade, investment and innovation, undermining the effectiveness of regulatory action. Indeed, regulatory inconsistencies, along with tax barriers, are an important culprit for fragmentation in internal markets. Canada is a case in point, where different regulations across the provinces hinder labour mobility, limit choice for consumers and prevent firms from reaping the benefits of scale of production, which are important in the digital area (Alvarez, Krznar and Tombe, 2019[16]). Regulatory co-operation is therefore needed, both vertically and horizontally, to avoid arbitrage, protect consumer rights effectively, and promote interoperability across regulatory frameworks and enforcement.

At the same time, there is much scope for using digital technologies to improve regulatory practices at all levels of government. For example, artificial intelligence and machine learning can reduce the cost of data collection and increase the range of data sources. Language processing techniques can assist with automating procedures to review public comments on proposed rules and potentially even improve the drafting of regulations. Moreover, big data can improve *ex post* evaluations, since it enables analysts to view market participants' behaviour and improve evidence base for policy decisions. Digital technologies can also be leveraged to simplify policy experimentation, better target inspection activities, such as through real time and continuous monitoring of compliance, and strengthen regulatory enforcement. These challenges in subnational digitalisation highlight the need for a well-structured overall strategy, as discussed above.

Co-operation among and within the different levels of government can play a significant role in supporting effective and efficient digitalisation of SNGs. The case for support by the national government is made more compelling by the fact that, as mentioned above, different SNGs are differently equipped to meet the challenges of digitalisation. Smaller and poorer urban, and especially rural, communities are more likely to suffer from skill shortages, limited connectivity, and scarcity of budgetary resources.

The national government can support subnational digitalisation efforts in several ways. They include appropriate reforms (discussed above) in the intergovernmental fiscal relation system to (*i*) give adequate weight to regional digital inclusion in its public investment choices, (*ii*) set appropriate nation-wide standards to facilitate seamless interfaces among the national and subnational digital systems, and (*iii*) provide technical assistance and training of subnational officials.

There is also significant scope for horizontal co-operation among SNGs in the digitalisation area. Peer support can include demonstration effects, technical assistance, and cross-training of officials, as well as effective interfaces among subnational digital systems in areas of common interest. Dedicated forums for interregional and inter-municipal dialogue on digitalisation issues, possibly under the umbrella of broader horizontal co-operation forums, can be instrumental in facilitating both the exchange of experiences and the formation of consensus on common digitalisation issues.

References

Alvarez, J., I. Krznar and T. Tombe (2019), "Internal Trade in Canada: Case for Liberalization", *IMF Working Paper*, No. WP/19/158, international Monetary Fund, Washington, D.C. [16]

Andrews, D., G. Nicoletti and C. Timiliotis (2018), "Digital technology diffusion: A matter of capabilities, incentives or both?", *OECD Economics Department Working Papers*, No. 1476, OECD Publishing, Paris, https://dx.doi.org/10.1787/7c542c16-en. [4]

Aslam, A. and A. Shah (2017), "Taxation and the Peer-to-Peer Economy", in Gupta, S. et al. (eds.), *Digital Revolutions in Public Finance*, International Monetary Fund, Washington, D.C. [17]

Australian Local Governments' Association (2018), *Local Government Workforce and Future Skills Report*, Sydney. [14]

Bahl, R., J. Youngman and J. Martinez-Vazquez (eds.) (2010), *Challenging the Conventional Wisdom on the Property Tax*, Lincoln Institute of Land Policy, Cambridge, MA. [18]

Boadway, R. and A. Shaw (2007), *Intergovernmental Fiscal Transfers: Principles and Practice*, World Bank, Washington, D.C. [19]

Bonet, J., A. Munoz and C. Pineda Mannheim (eds.) (2014), *El Potencial Oculto: Factores determinantes y oportunidades del impuesto a la propiedad inmobiliaria en América Latina*, Inter-American Development Bank, Washington, D.C. [20]

Bonsón, E. et al. (2012), "Local e-government 2.0: Social media and corporate transparency in municipalities", *Government Information Quarterly*, Vol. 29. [13]

Cangiano, M., A. Gelb and R. Goodwin-Groen (2017), "Integration of Government Digitalisation and Public Financial Management: Initial Evidence", in Gupta, S. et al. (eds.), *Digital Revolutions in Public Finance*, International Monetary Fund, Washington, D.C. [21]

Council of Europe (2019), "Draft Guidelines on e-Democracy in the Form of a Toolkit", European Committee on Democracy and Governance, CDDG(2019)11, November. [22]

de Mello, L. and T. Ter-Minassian (2020), "Digitalisation challenges and opportunities for subnational governments", *OECD Working Papers on Fiscal Federalism*, No. 31, https://dx.doi.org/10.1787/9582594a-en. [1]

ESPON (2017), "The territorial and urban dimensions of the digital transition of public services", *EPSON Policy Brief*, European Commission, Brussels. [11]

Government of Denmark (2017), *The digitally coherent public sector*, White Paper on a common public-sector digital architecture Version 1.0, June 2017, Copenhagen. [23]

Government of Estonia (2017), *Facts about the X-Road*, Republic of Estonia Information Systems Authority, Tallinn. [24]

Gupta, S. et al. (eds.) (2017), *Digital Revolutions in Public Finance*, International Monetary Fund, Washington, D.C. [6]

Jacobs, B. (2017), "Digitalisation and Taxation", in Gupta, S. et al. (eds.), *Digital Revolutions in Public Finance*, International Monetary Fund, Washington, D.C. [8]

Khan, A. and M. Pessoa (2010), "Conceptual Design: A Critical Element of a Government Financial Management Information System Project", *IMF Technical Note*, TNM 10/07, International Monetary Fund, Washington, D.C. [25]

OECD (2019), *Going Digital: Shaping Policies, Improving Lives*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264312012-en. [2]

OECD (2019), "Implementing Online Cash Registers: Benefits, Considerations and Guidance", OECD, Paris, http://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/implementing-online-cash-registersbenefits-considerations-and-guidance.htm. [26]

OECD (2019), *OECD Regional Outlook 2019: Leveraging Megatrends for Cities and Rural Areas*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264312838-en. [12]

OECD (2019), *Tax Administration 2019: Comparative Information on OECD and other Advanced and Emerging Economies*, OECD Publishing, Paris, https://dx.doi.org/10.1787/74d162b6-en. [5]

OECD (2019), *The Sharing and Gig Economy: Effective Taxation of Platform Sellers : Forum on Tax Administration*, OECD Publishing, Paris, https://dx.doi.org/10.1787/574b61f8-en. [7]

OECD (2019), "Using digital technologies to improve the design and enforcement of public policies", *OECD Digital Economy Papers*, No. 274, OECD Publishing, Paris, https://dx.doi.org/10.1787/99b9ba70-en. [3]

OECD (2018), *OECD Regions and Cities at a Glance 2018*, OECD Publishing, Paris, https://dx.doi.org/10.1787/reg_cit_glance-2018-en. [15]

OECD (2017), *Shining Light on the Shadow Economy: Opportunities and Threats*, OECD, Paris, http://www.oecd.org/tax/crime/shining-light-on-the-shadow-economy-opportunities-and-threats.pdf. [10]

OECD (2017), *Tools to Tackle Tax Evasion and Tax Fraud*, OECD, Paris, https://www.oecd.org/tax/crime/technology-tools-to-tackle-tax-evasion-and-tax-fraud.pdf. [9]

OECD (2013), "Fiscal equalisation: A key to decentralised public finances", in *Fiscal Federalism 2014: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264204577-7-en. [31]

Sanchez, A. (2013), "The Role of Procurement", in Allen, R., R. Hemming and B. Potter (eds.), *The International Handbook of Public Financial Management*, Palgrave MacMillan. [27]

Seco, A. and A. Munoz (2018), "Panorama del uso de las tecnologías y soluciones digitales innovadoras en la política y la gestión fiscal", Discussion Paper, IDB-DP-602, Inter-American Development Bank, Washington, D.C. [28]

Ter-Minassian, T. and L. de Mello (2016), "Intergovernmental Fiscal Coordination: International Experiences and Possible Lessons for Brazil", *IDB Technical Notes*, No. 1048, Inter-American Development Bank, Washington, D.C. [29]

Una, G., R. Allen and N. Botton (2019), "How to Design a Financial Management Information System: A Modular Approach", *IMF How-to Notes*, No. 19/02, International Monetary Fund, Washington, D.C. [30]

Notes

[1] More information on the index is available at https://ec.europa.eu/digital-single-market/en/news/how-digital-europe-compared-other-major-world-economies.

[2] Through the Inclusive Framework on BEPS, the OECD is currently leading work to revise the international corporate tax rules to address the Tax Challenges Arising from the Digitalisation of the Economy.

[3] OECD (2019[26]) examines the significant benefits that can be realised through connecting mandatory cash registers directly to tax administration systems.

[4] See Aslam and Shah (2017[17]) and OECD (2019[7]) for a comprehensive discussion of the challenges of taxing the shared economy

[5] The OECD is currently developing model rules for reporting by platform operators with respect to sellers in the sharing and gig economy.

[6] See for example, Bahl, Martinez Vazquez and Youngman (2010[18]). See also Bonet, Munoz and Pineda Mannheim (2014[20]) for examples of successful digitalisation of cadastres in Latin America.

[7] For examples in this area, see Seco and Munoz (2018[28]).

[8] See, for example, Cangiano et al. (2017[21]).

[9] Sanchez (2013[27]) provides a useful overview of good rules and practices in public procurement.

[10] See, for example, Khan and Pessoa (2010[25]), and Una, Allen and Botton (2019[30]).

[11] A framework for e-Democracy is being developed by the Council of Europe (2019[22]).

[12] For instance, a 2016 survey of U.S. local governments found that more than one half of responding jurisdictions did not track cyber-incidents or know the source of such incidents when they occurred (although nearly one half of respondents estimated such cyber-attacks to be occurring at least daily).

[13] For example, a study of Seattle's open data platforms and policies points to data 'spills' as a key concern of citizens in viewing open data efforts with suspicion and distrust.

[14] An interesting example in this respect is the German proposal to create Alliances for Digitalisation, involving multiple public and private stakeholders to help shape digitalisation strategies at the regional and local levels.

[15] There is an extensive literature on fiscal equalisation. In addition to Chapter 2, see, for example, Boadway and Shah (2007[19]) and OECD (2013[31]).

[16] See Government of Estonia (2017[24]) for details.

[17] See Government of Denmark (2017[23]).

[18] See Ter-Minassian and de Mello (2016[29]) for examples of vertical co-operation forums.

[19] See OECD (2019[3]) and Ter-Minassian and de Mello (2016[29]) for details and examples.

6 Can subnational accounting give an early warning of fiscal risks?

The early detection of state and local fiscal problems can help in resolving them quickly before they turn into crises. Early detection should be easier if subnational governments prepare high-quality accounts. A survey and case studies were undertaken to investigate the nature of subnational accounting in OECD and partner countries, as well as the use of subnational accounts by national governments that monitor subnational finances. The results show that in many countries subnational accounting has characteristics that should help in the early detection of fiscal problems, including the use of accrual accounts prepared according to largely harmonised standards. Many national governments use a wide range of indicators from the accounts to monitor the financial health of subnational governments. However, there is room for progress including in the monitoring of non-financial assets and reporting of currently off-balance sheet liabilities.

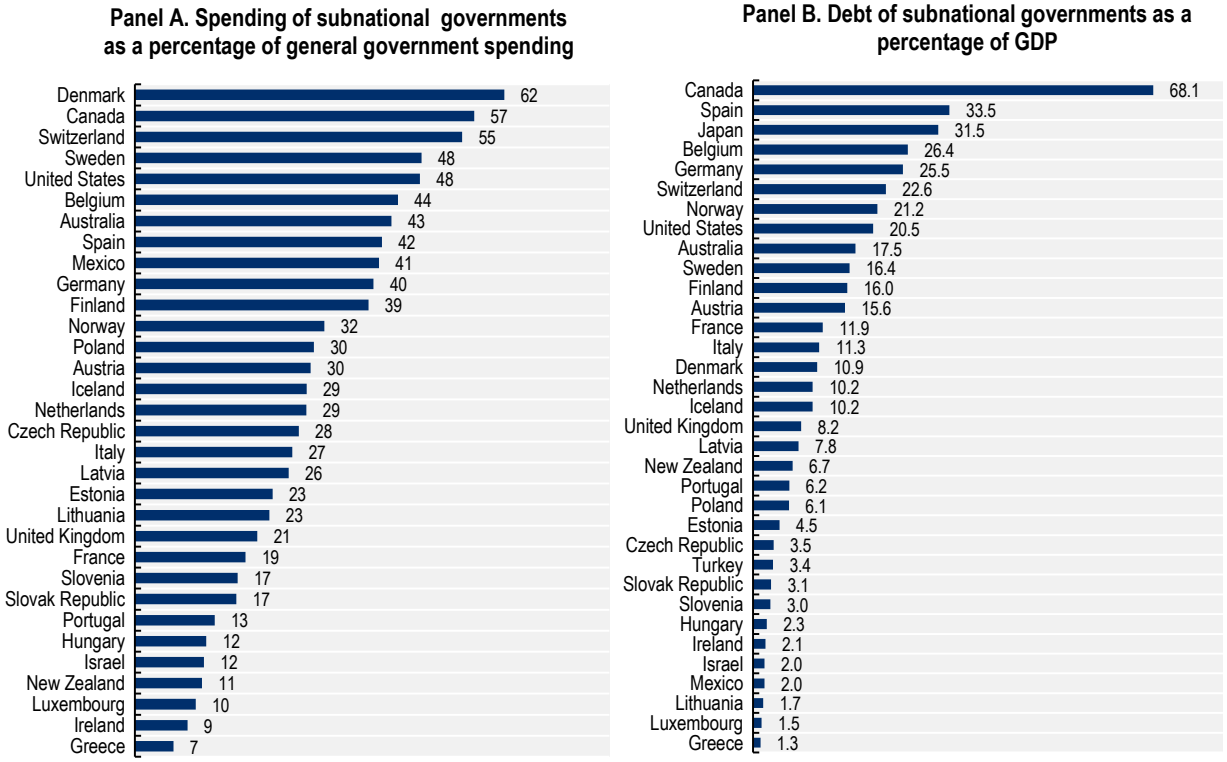
Introduction

The subnational context

Subnational governments provide crucial public services in OECD countries at the state and local levels. They are usually responsible for local infrastructure, including roads and water supply, and they are often responsible for education, health care and other social services. In federations and decentralised unitary countries such as the Nordics, they may account for as much as 50% of government spending (Figure 6.1, Panel A). Their share in government debt is usually lower, but subnational debt is nevertheless more than 10% of GDP in about the half the OECD countries for which data are available (Figure 6.1, Panel B) from the OECD Fiscal Decentralisation database.[1] Data on subnational assets are less widely available, but subnational governments' role in the provision of infrastructure suggests they are likely to own a large share of public non-financial assets in many countries. In Australia, to take one example, they own 89%.[2]

Figure 6.1. Subnational spending and debt shares

OECD countries, 2020



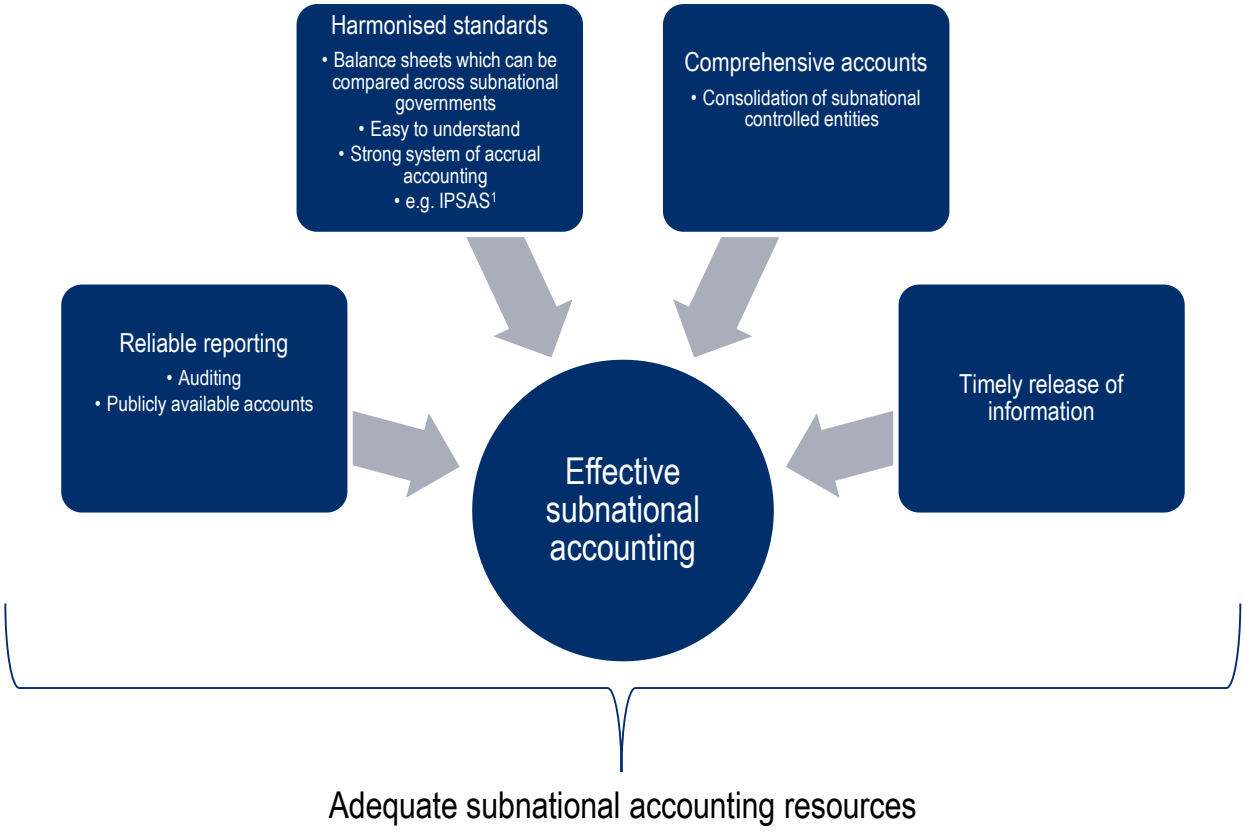
Note: Panel A: The spending of each level of government excludes its transfers to other governments. Estimates are not available for all countries. For Mexico, the estimate is for 2015. For the United States, the estimate excludes local government: it is spending by state governments as a percentage of spending by states and the federal government. Panel B: Estimates are not available for all countries. For Israel, Japan, Mexico, and New Zealand, the estimates are for 2015; for Switzerland, the estimate is for 2014. For Australia and the United States, the estimates exclude the debt of local government.
Source: OECD Fiscal Decentralisation database, Tables 5 and 19.

StatLink https://stat.link/u5wc14

Generally, solving subnational fiscal problems before they become crises requires subnationals to prepare high-quality accounts (Figure 6.2). Specifically, the accounts should be up to date, which means that they should be produced reasonably frequently and with a reasonably short time lag. They should be reliable, which means, among other things, that they should be audited. They should be easy to understand, which is more likely if, among other things, they follow a common set of standards. And they should be comprehensive. Accounting information on subnational governments' debt and cash flows is crucial, but early detection of problems is more likely if the accounts include more than this. A subnational balance sheet, for example, may suggest problems in the maintenance and renewal of assets, while data on accrual expenses may show that cash outflows are being controlled only by delaying the payment of bills. Data on liabilities associated with pensions, public-private partnerships, and subnational enterprises may reveal serious fiscal risks even though the conventional direct debt of the subnational government remains modest. Of course, not even the best accounting can reveal all looming subnational fiscal problems: a banking crisis, major natural disaster, or a pandemic can quickly create fiscal problems for subnational governments even with strong finances. Timely, reliable, understandable, and comprehensive accounting should, however, provide early warnings of some subnational financial problems, and also provide information on the extent to which subnationals have the financial strength to weather sudden negative shocks. However, the need for comprehensive, timely and reliable financial reporting for the identification of fiscal risks requires sophisticated accounting standards and practices, which in turn requires capacities and resources for accounting departments and audit institutions that may be difficult to mobilise at subnational level. This leads to a trade-off between cost and quality, which survey results suggest can be handled in a variety of ways.

In certain countries, larger subnational governments' accounts recognise a broad range of assets and liabilities (including those related to pensions, derivatives and public-private partnerships), but smaller subnational governments are allowed to produce fewer disclosures in their financial statements. Some countries make timely monitoring easier by having subnational governments report on a quarterly or even a monthly basis, but only for headline financial indicators. Concerning external control, while some flexibility may be granted with respect to the modalities for the audit of individual accounts, the supreme audit institution may be tasked with the preparation of a summary report on the financial situation of subnational governments and their annual financial audits, allowing the identification of any widespread problems.

Figure 6.2. Elements of an effective subnational accounting system



1. International Public Sector Accounting Standards.

Although systematic data on subnational financial problems are not available, examples are easy to find. Spain's fiscal problems during the European debt crisis of the early 2010s were compounded by those of the autonomous communities of Andalucía, Catalonia and Valencia (Jenker and Lu, 2014[1]). In the United States, the financial crisis caused Illinois to suffer severe financial difficulties, and the city of Detroit to file for bankruptcy. In Brazil, the State of Rio de Janeiro declared a "state of public financial calamity" in 2016, and some other states have since followed suit (Rodrigues, 2019[2]). Similar problems have arisen, at various times and in varying degrees of severity, in many OECD countries (Allers, 2014[3]; Baskaran, 2014[4]; von Hagen et al., 2000[5]; UK National Audit Office, 2018[6]; Herold, 2018[7]; Herold, 2020[8]). It would not be surprising if the coronavirus pandemic of 2020 also caused serious financial problems for some subnational governments (OECD, 2020[9]).

The role of national governments

The importance of subnational governments in many countries means that subnational fiscal problems can have serious repercussions not only for local public services but also for national public finances. For one thing, the national government may feel obliged to step in to remedy the deterioration of public services. It may also have guaranteed the debts of subnational governments. Or, it may simply judge that the national costs of allowing subnational governments to default on their debt are greater than the costs of bailing them out.

National governments can try to mitigate the fiscal risks of subnational finances in at least two main ways (Figure 6.2) (OECD/KIPF, 2016[10]; Herold, 2018[7]). They can disclaim responsibility for subnational debts and thus minimise moral hazard and encourage citizens, journalists, researchers, lenders, credit-rating agencies and others to monitor subnational finances (the "no-bailout strategy"). Alternatively, they can establish fiscal rules and other constraints that aim to prevent subnationals from accumulating too much debt or otherwise taking on excessive risks and then monitor the subnationals to check compliance with the rules and to look for signs of trouble even when rules are not broken ("the control-and-monitor strategy") (Sutherland, Price and Joumard, 2006[11]). Examples of the control-and-monitor strategy in practice are given in Figure 6.2, and illustrate how such a strategy may be implemented by central government following subnational financial distress.

Other strategies are possible, though some run the risk of creating moral hazard without imposing controls strong enough to prevent excessive risk-taking. In addition, the chosen strategy is sometimes complemented by the creation of an insolvency regime for subnationals to reduce the problems created by subnational failures (Herold (2020[8]), and Chapter 8 in this volume).

Approaches to standard-setting

Accounting standards are generally harmonised

Having uniform standards is easier in unitary countries. Of the 24 survey respondents classified here as unitary countries,[3] 10 have a common set of standards for all governments including the national government, and 12 have a common set of standards for subnationals that differs from the standards followed by the national government (Table 6.1). South Africa is distinctive in that the national government and the provinces follow one set of standards, while municipalities follow a different set.

Surprisingly, a high degree of standardisation occurs also in the nine federations surveyed. Four of them have common standards for national and subnational governments, and two have harmonised standards for subnationals that are different from the standards for the national government. In most cases, these common standards are adopted on a voluntary basis, and compliance with them may not be universal. Two federations in which there is less standardisation are Belgium and Germany.

Common standards make information easier to understand and compare, but do not ensure perfect comparability. Sometimes accounting standards allow for more than one option in the treatment of an issue, and even when there is only one option there may be different ways to interpret the standard. Perhaps most important, compliance with the standards may be imperfect, as reportedly in Brazil and Mexico.

Table 6.1. Consistency of standards across national and subnational governments

Subtotals for unitary states and federations

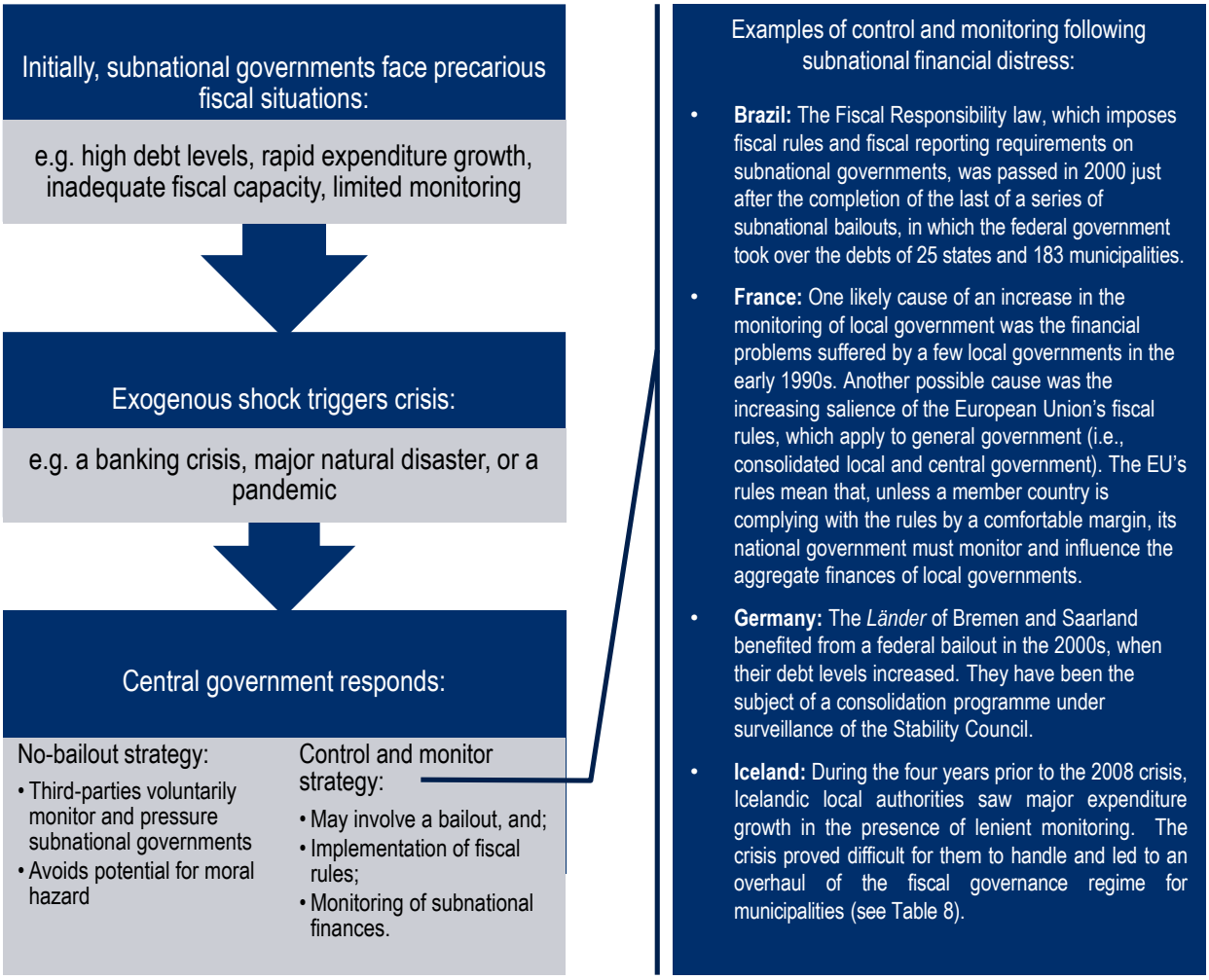
	Similar for national and all subnational	Similar for all subnational	Not similar
Unitary Countries	**10:** Czech Republic, Estonia, Latvia, Lithuania, New Zealand, Portugal, Slovak Republic, Turkey, United Kingdom, China (People's Republic of)	**12:** France, Greece, Iceland, Ireland, Israel, Japan, Korea, Luxembourg, Netherlands, Norway, Poland, Sweden	**2:** Italy, South Africa
Federations	**5:** Australia, Austria, Canada, Spain; Brazil	**2:** Switzerland, United States	**2:** Belgium, Germany

Note: For Italy, the harmonisation of standards within subnational government is only partially done.
Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 2: Is there one set of accounting standards for all governments or all subnational governments or do the standards vary, for example, by region or level of government?

The means for imposing common standards are country-specific

The means for defining common standards vary between unitary countries and federations (Figure 6.3). In unitary countries, the national government often sets accounting standards for subnationals, with the responsibility typically attributed to the Ministry of Finance (9 countries) or the Ministry of Interior (7 countries). Ministries of finance are more likely to be involved if there is one set of standards for all governments. In three unitary countries – Iceland, Norway and Sweden – standard-setting responsibility lies with an independent body that includes representatives of national government, local-government associations and sometimes auditors.

Figure 6.3. Typical path of a subnational financial crisis



Note: See Table 6.8 for more information on the interaction of subnational finances with intergovernmental fiscal relations.
Source: Annex of Irwin and Moretti (2020[12])

In most federations, independent standard-setters establish standards that can be adopted by subnational governments. In Australia, the commonwealth government and the states have agreed to follow standards based on International Financial Reporting Standards (IFRS) set by the Australian Accounting Standards Board (an independent government entity). A similar mechanism exists in Canada. In Switzerland, a set of accounting standards was developed co-operatively and is "widely applied" by cantons according to the questionnaire response. In the United States, many subnational governments follow the standards set by the (private) Governmental Accounting Standards Board. Similarly, the national government in Austria (in particular the Ministry of Finance in agreement with the Court of Auditors) has the authority to set accounting standards for subnational governments based on International Public Sector Accounting Standards (IPSAS).

Accounting basis for subnational accounts

Accounting standards are generally classified as "cash basis" or "accrual basis" (Moretti and Youngberry, 2018[13]). Cash-based accounts are easier to prepare because they are simpler and require fewer judgements and estimates. That means they are also easier to understand and less vulnerable to manipulation by means of dubious judgments or optimistic estimates. Reliable cash-based accounts and measures of conventional debt also provide much of the information needed for monitoring subnational finances. They show whether a subnational government is generating enough cash to service its debts, and they allow the national government to establish rules that limit subnational deficits and debt. Where cash accounting also requires the recording of contractual commitments, information on committed future cash outflows is also available.

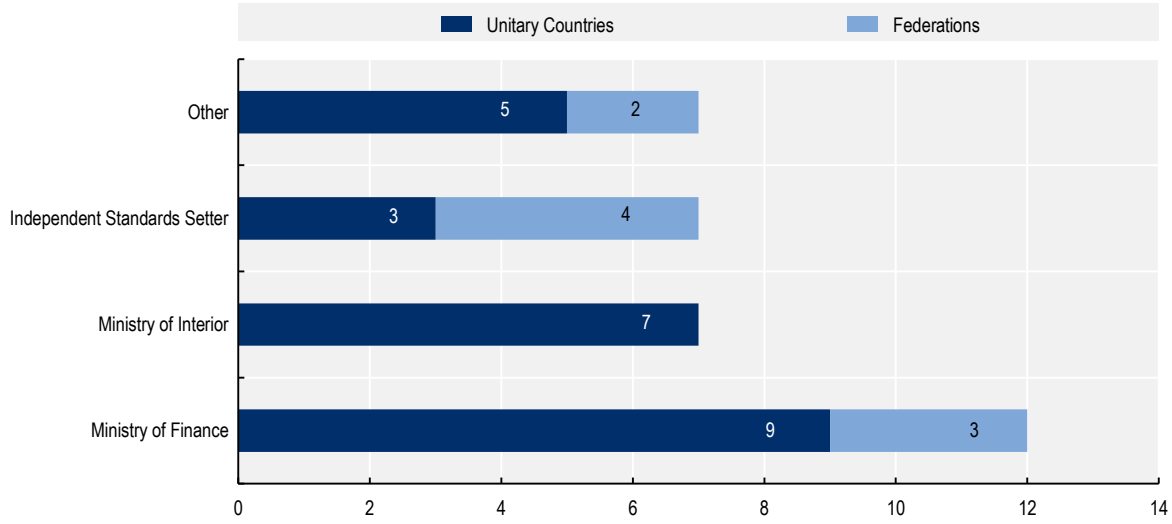
However, having more information than is provided by traditional cash accounts should allow subnational fiscal problems to be detected earlier. Sooner or later, most fiscal problems show up in cash deficits and in difficulties repaying outstanding debt, but problems may build up well before these things happen. To take one example, a struggling subnational government may respond to declining revenues by delaying payments to suppliers, as happened during the European debt crisis in countries such as Italy and Spain. For a while, the struggling subnational's cash accounts may remain in balance, thereby concealing the looming problem. Accrual-based accounts will reveal the problem earlier since they record spending when the government is invoiced (for instance), and not when it pays.

A large majority of subnationals prepare accrual accounts

The merits of accrual accounting in providing a more comprehensive picture of the finances of local government are recognised in most OECD countries (Figure 6.4). In a large majority of the countries surveyed, subnational accounts prepared on an accrual basis or subnationals are transitioning to the accrual basis (e.g. Brazil). In addition, in those countries where subnational governments prepare their main accounts on a cash basis, complementary accrual financial statements may be prepared on mandatory (e.g. Portugal) or voluntary (e.g. Japan) bases.

Figure 6.4. Authority for standard-setting

Subtotals for unitary states and federations



Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 6: Is there an institution in charge of establishing accounting standards for subnational governments?

StatLink https://stat.link/hskz7n

There are some exceptions. Israel, Luxembourg and Norway use a mix of accrual and cash concepts. This means in most cases that expenses are recognised on accrual basis, but the depreciation of assets is not included in the annual profit and loss. In other countries that do not have harmonised accounting standards for subnationals, the type of accounting basis used depends on the subnational government. In Belgium, for example, Brussels, Flanders and the German-speaking community have accrual accounts, but Wallonia does not. In Germany, Hesse and Hamburg and most local governments have accrual accounts, but most *Länder* and some local governments do not.

In most of the countries that use the accrual basis for subnational accounts (Table 6.2), the transition took place more than a decade ago – that is before the 2008 financial crisis. The adoption of accrual standards did not prevent a series of recent problems with subnational government finances. In some cases, the problems may have been hard to prevent with any kind of accounting because the main cause was a deep recession and a credit crunch. In other cases, the quality of the accounting standards may have been part of the problems. For example, in Portugal or Greece, subnationals were required to move from cash to accrual accounting in the wake of the financial crisis. Case studies show that some countries have recently strengthened the accrual-accounting requirements for subnationals (Brazil, France and Iceland).

Table 6.2. Date of the transition to accrual accounting

	Total	Countries
Before the 1990s	6	France, Iceland, Latvia, Netherlands, Sweden, Switzerland
1990s	6	Australia, New Zealand, Poland, Portugal, Spain, United Kingdom
2000s	7	Canada, Estonia, Greece, Korea, Lithuania, Turkey, United States
2010s	5	Austria, Czech Republic, Ireland, Italy, Slovak Republic
On-going	1	Brazil

Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 4. If subnational governments prepare accrual-based accounts, when did the transition happen and how long were subnational governments given to adopt accrual accounting? (24 answers).

Box 6.1. Selected past problems with subnational government accounting

Non-debt liabilities

If conventional debt is closely scrutinised or restricted by fiscal rules, subnational governments may be tempted to borrow in unconventional ways. Australia experienced this issue when conventional borrowing by the states was controlled by the Loan Council: states circumvented the restrictions by effectively borrowing by means such as sale-and-leaseback agreements and privately financed but government-guaranteed infrastructure projects (see Table 6.8).

Subnationals may also enter into derivative contracts that initially reduce net cash outflows but increase them later. In 1994, Orange County, in California, filed for bankruptcy (and was not bailed out by the state) partly because of investments in derivatives and other instruments that had initially seemed promising but later proved costly. During the recent financial crisis, several Italian local governments, including the city of Milan, suffered losses on interest-rate swaps that they had entered into before the crisis in order to reduce their net interest spending (Sanderson, Dinmore and Tett, 2010[14]). In both countries, controls on derivatives have been improved since these problems arose.

Sometimes, a subnational government's biggest liabilities relate to pensions. In the United States, the magnitude of subnational pensions and how they should be valued in subnational accounts has been a matter of controversy in recent years. Novy-Marx and Rauh (2009[15]) argued that the accounts of US states seriously under-estimated the size of pension obligations, which in gross terms, they estimated, were five times larger than the states' conventional debts. For a different view, see (Angelo, 2013[16]) and for a broader discussion of the issues, see (GAO, 2014[17]).

Guarantees can also cause problems. In Austria, to take one example, the state of Carinthia suffered severe financial problems during the global financial crisis because it had guaranteed (and also partly owned) the failing Hypo Alpe-Adria Bank. To help resolve the problems, the bank was taken over by the national government (IMF, 2018[18]).

Borrowing by related entities

Subnational governments may also be tempted to avoid restrictions on their own borrowing by having borrowing done by entities they own or control. Australia experienced this tendency in the early days of the Loan Council, when borrowing limits applied only to the states themselves. The states responded by having local governments and semi-independent state bodies do the borrowing on their behalf.

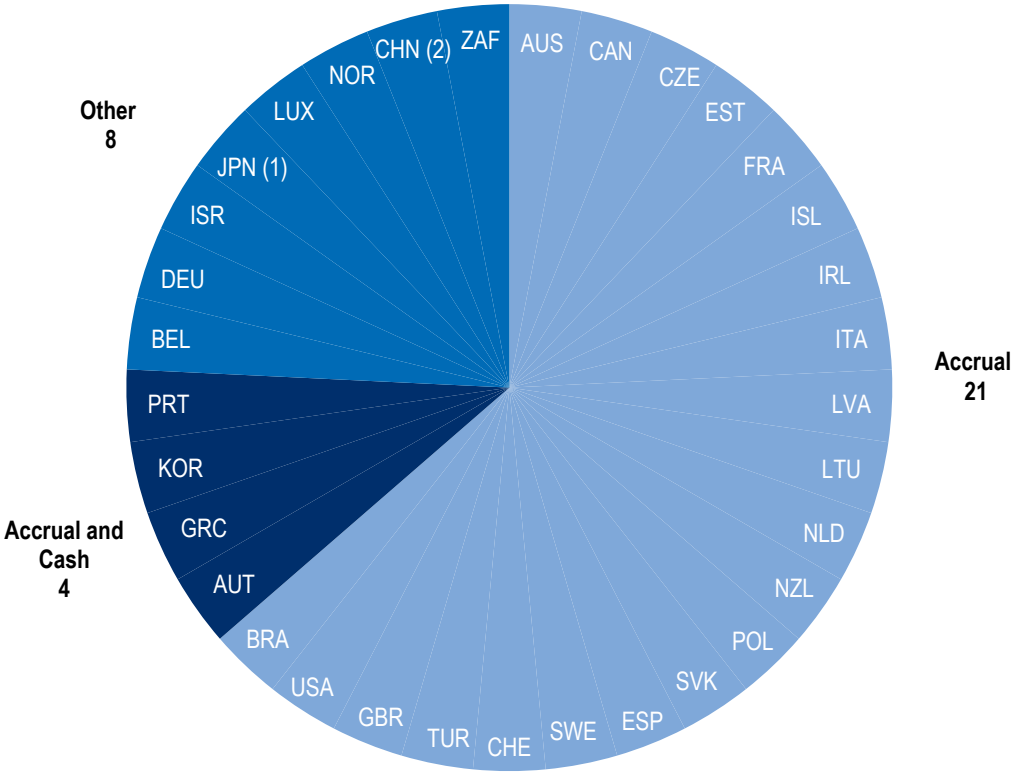
Even if borrowing is not done on behalf of the subnational government, it may be difficult for the subnational government to avoid standing behind entities that it owns or control. In France, for example, the commune of Angoulême became financially distressed after property-development companies that it partly owned (and whose liabilities it had guaranteed) became financially distressed – and was bailed out by the national government.

There is no shared definition or framework for accrual accounting

The debate on characteristics for "quality" of accrual accounting standards in the case of the public sector is not settled. However, ensuring that subnationals follow standards that are established by an independent standard-setter with appropriate technical capacities or are aligned with recognised international accounting standards can go a long way towards ensuring that their accounts provide comprehensive and relevant information.

Countries in which accrual-based standards for subnationals were adopted before the 1990s often based those standards on national standards for the private sector (Figure 6.5). Later, a few countries adopted standards based on international standards for the private sector, namely International Financial Reporting Standards (IFRS) (e.g. Australia and the United Kingdom). Recently, it has become more common to adopt standards based on International Public Sector Accounting Standards (IPSAS) (Brazil, Slovak Republic and Lithuania). Some early adopters of accrual accounting have also started aligning their framework with IPSAS (e.g. Latvia).

Figure 6.5. Accounting basis for accounts of subnational governments

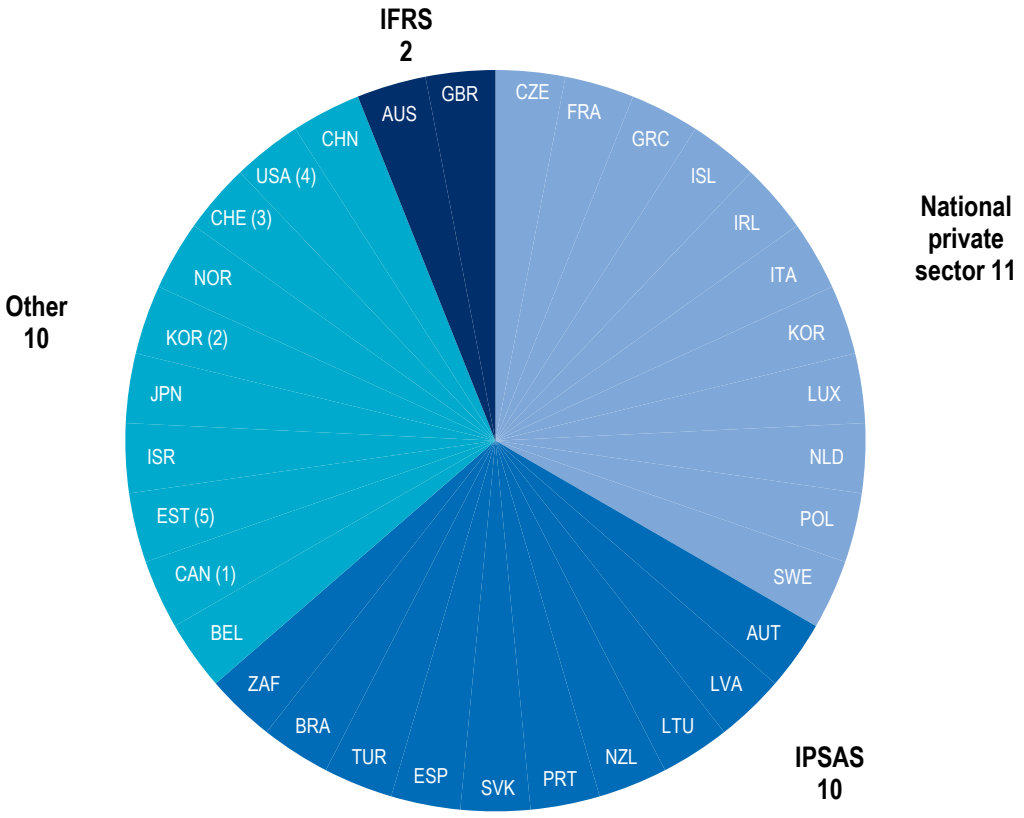


1. The Japanese Ministry of Finance strongly recommends that subnational governments prepare accrual financial statements in addition to their cash accounts.
2. China (People's Republic of) launched pilot exercises for implementing accrual accounting at the subnational level in 2016.
Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 3: What kind accounting standards do subnational governments follow in your country?

StatLink https://stat.link/18ng2k

Countries that use IFRS or IPSAS as a reference for their national framework sometimes mention adaptations or exceptions, due for example to the mismatch between the requirements of the standards and available resources and capacities at subnational level. In Portugal, for example, so-called local "micro-entities" are not required to prepare accrual-basis financial statements in addition to their cash accounts. Similarly, in the United Kingdom, "small entities" have simpler reporting requirements.

Figure 6.6. Reference framework for accrual-basis accounting standards



1. Canada has launched in 2019 a consultation on its international strategy, including the option to adopt IPSAS.
2. The Korean standards are aligned with those used in the United States.
3. Switzerland answered that the standards are not based on any of the frameworks listed.
4. In the United States, the standards are the pronouncements of the Government Accounting Standards Board.
5. Estonia answered that their standards include references to IPSAS, IFRS and the national private sector framework.

Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 5: If subnational governments prepare accrual-based accounts, are the standards for these accounts based on other standards?

StatLink https://stat.link/w7vdlg

Timeliness and reliability of subnational accounts

Early detection of problems requires timely and reliable accounts. To be timely, accounts must be published or transmitted to the national government on a sufficiently frequent basis and within a reasonably short lag after the end of the period. To ensure reliability, the annual accounts need to be audited. Cash accounts can be manipulated by changing the timing of cash flows without greatly changing the substance of subnational finances. Accrual accounts introduce opportunities to manipulate accounts by making dubious judgments and optimistic estimates. In both kinds of accounts, some form of quality assurance is needed to help detect fraud and ensure that the accounts reflect the rules. However, the importance of estimates and judgments in accrual accounting increases the onus on auditing to maintain the reliability of the accounts.

Annual reporting is a basic requirement in virtually all countries

Annual reporting to national government is mandatory in almost all unitary states. A large majority of countries do not require that this reporting be done with audited accounts. Where audited accounts are required, the time lag for the transmission of the accounts tends indeed to be longer – for example, more than six months (Greece, Israel and Norway).

Although this information was not required in the survey, a number of countries indicated that in addition to the transmission of the annual accounts, subnational governments are required to report some data on a more frequent basis. That is the case for example in Greece, Estonia, Lithuania, Brazil (monthly) and in Iceland and Israel (quarterly).

In most federations, states and local governments are not required to report financial data to the federal government (except for statistical purposes) (Table 6.3). They often have the obligation however, to publish their annual accounts, according to detailed rules specified in national or subnational legislation. The publication of accounts by subnational governments is mandatory in most unitary states. The exceptions are Korea, Luxembourg, France and Norway. In the two latter countries, all citizens have however access to this information upon request.

Table 6.3. Reporting requirements towards national government

Subtotals for unitary states and federations

	Non-audited annual accounts	Audited annual accounts	Time-lag (1)	No such requirements
Unitary States				
Czech Republic	*		M+2	
Estonia	*			
France	*			
Greece		*	M+9	
Iceland	*		M+5	
Ireland	*		M+3	
Israel		*	M+6	
Italy	*			
Japan	*			
Korea	*		M+5	
Latvia		*		
Lithuania		*	M+2	
Luxembourg	*			
Netherlands	*		M+7	
New Zealand				*
Norway		*	M+7 (4)	
Poland	*		M+7	
Portugal	*		M+4	
Slovak Republic				*
Sweden				*
Turkey	*			
United Kingdom		*		
China (People's Republic of)	*			
South Africa	*		M+9	
Sub-total	15	6		3
Federations				
Australia				*

	Non-audited annual accounts	Audited annual accounts	Time-lag (1)	No such requirements
Unitary States				
Austria		*		
Belgium				*
Canada				*
Spain	*			
Germany				*
Switzerland				*
United States		(2)	M+9	
Brazil	(3)		M+6	
Sub-total	2	2		5
Total	**17**	**8**		**8**

Note: In some countries, such as Norway, a first set of non-audited data is communicated to the national statistical agency in the first quarter of the year. Time-lags are specified only when a reporting requirement to national government exists and for countries that provided this information in their answer to the survey. Time-lags are expressed in months; (2) In the United States, all state and local governments that receive more than USD 750 000 of federal assistance must submit a financial and compliance audit within 9 months after period end; (3) In Brazil, the Fiscal Responsibility Law establishes that the subnational governments have to send their accounting data of the last fiscal year until June 30, in order to the central government consolidate the public sector accounts. (4) In Norway, the accounts have to be submitted to the national government within one month of their adoption by the local government – i.e. at the latest June 30th + 1 month.
Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 9: Are subnational governments required to submit their accounts to the national government?

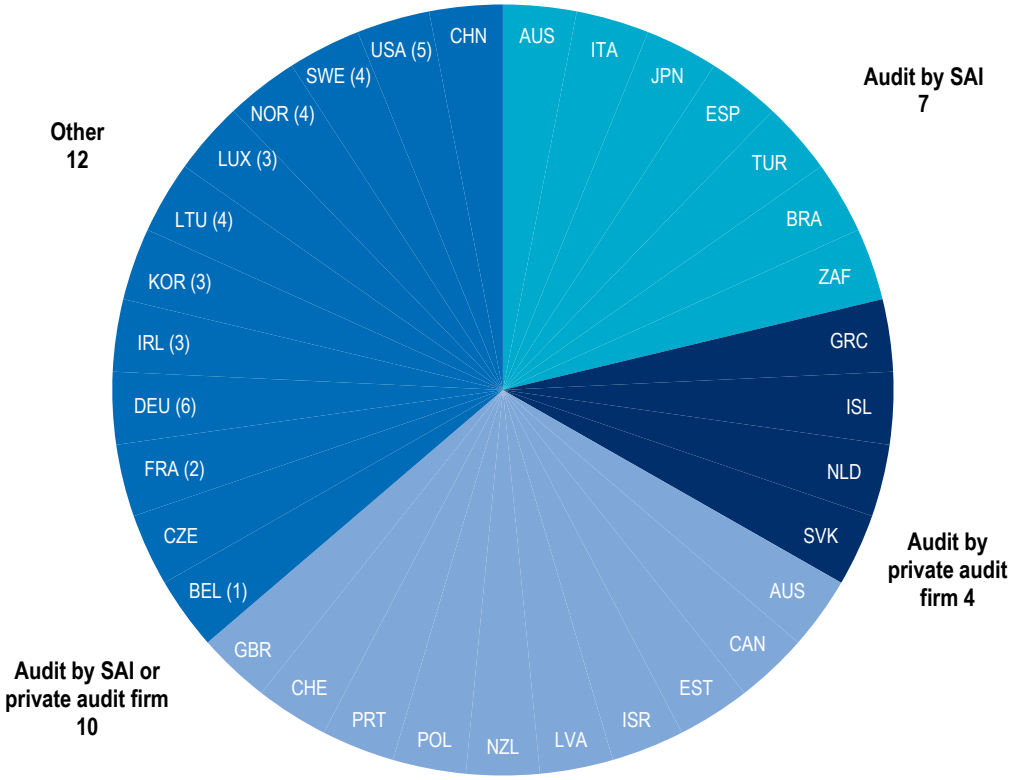
Independent audit is not yet a standard practice

There are many variations in the auditing of subnational accounts (Figure 6.6). While the audit of the national government's accounts by the supreme audit institution (SAI) is the norm in the OECD, only a small group of countries require that their SAI also audit subnationals' accounts each year (7 of 33 countries). In other countries, there are limits on what type of entities the SAI can audit, for constitutional or other reasons. For example, the SAI may have discretion as to how many individual entities to audit each year, in order for them to accommodate other types of audits within their resource constraints.[4]

The survey answers reveal two dominant practices. In 10 countries, independent external audit is required, and it often involves both the SAI and private audit firms. Under this model, the SAI or a state auditor may provide an audit opinion on the consolidated financial statements of the state, while audit firms may audit the accounts of local governments. In 12 countries, other audit models are used. Audits may be carried out by audit departments, inspections or the like, operating under the auspices of either national or subnational government. In Sweden, politically elected auditors conduct controls and report their findings and recommendations to the audit committee of the municipal council. In Germany, local governments are authorised to self-audit.

Very few countries indicated widespread audit issues with subnational accounts. This is understandable, as discovering such issues could require reviewing hundreds if not thousands of audit reports. In addition, audit qualifications may be difficult to analyse or compare where accounting standards have not been fully harmonised. However, a recent report of the Austrian Court of Audit on the fiscal data of municipalities identified many issues with incomplete data. Two countries indicated that their SAI produces a synthesis of key audit issues identified in the local sector (France and New Zealand). Such reports are useful in that they may help identify common problems and risks that may have gone unnoticed through the usual monitoring mechanisms.

Figure 6.7. Audit of subnational accounts



1. In Belgium, state governments are audited by the Court of Auditors and local governments are audited by agencies of the state governments.
2. France is piloting several audit models.
3. In Ireland, Korea and Luxembourg, audits are carried out by audit departments operating under the auspices of the national government.
4. In Lithuania, Norway and Sweden, audits are carried out by local bodies; specifically, in Norway, audits cannot be conducted by a local body which is part of the legal entity of the municipality. Thus, audits are carried out mainly by audit companies owned by one or several municipalities or regions, but also by private audit companies.
5. In the United States, auditors vary by state: they can be conducted entirely by the state auditor, entirely by public accounting firms, or both.
6. In Germany, different types of audit are authorised at local level, including "self-auditing".

Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 7: Are subnationals' accounts audited?

StatLink https://stat.link/k31gs8

Monitoring

The accounts that subnationals produce are often monitored by national governments. National governments that pursue the control-and-monitor strategy must of course monitor subnational finances, but governments that pursue the no-bailout strategy may also choose to do some monitoring, while being careful to avoid any suggestion that the monitoring implies responsibility.

Monitoring systems

The approach that national governments take depends in part on their authority over subnational governments, which tends to depend in turn on whether the constitution is federal or unitary. As a rule, national governments in unitary countries have authority over subnational governments and tend to follow the control-and-monitor strategy, while national governments in federations are less likely to have such

authority and more likely to follow the no-bailout strategy. Yet there are several exceptions to this rule, and some governments follow strategies that do not fit neatly into either of the two categories.

In the countries surveyed for this study, 18 national governments reported that they had the authority to monitor subnational governments and take steps to remedy their problems (Table 6.4). As might be expected, these countries are almost all unitary. The exception is Spain, which has been described as quasi-federal. In 12 countries, the national government reported that it did not have the authority to monitor subnational governments and take steps to remedy their problems. As might be expected, all the federations apart of Spain fall in this category. However, four unitary states are also in this category: the Czech Republic, Portugal and two Nordic countries that, despite being unitary, have a tradition of autonomous local government - Iceland and Sweden.

Table 6.4. National governments' authority to intervene in subnational finances

	Authority to monitor and take steps to remedy problems	No such authority
Unitary Countries	**17:** Estonia, France, Greece, Ireland, Israel, Japan, Korea, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Slovak Republic, United Kingdom; China (People's Republic of), South Africa,	**4**: Czech Republic, Iceland, Portugal, Sweden
Federations	**1**: Spain	**8**: Australia, Austria, Belgium, Canada, Germany, Switzerland, United States; Brazil

Note: Answers provided by respondents sometime referred to legislation other than the constitution. Italy, Latvia and Turkey did not answer this question, as they answered a previous version of the questionnaire.
Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 1: What authority does the constitution give the national government in the area of subnational finances?

The proportion of national governments that monitor subnational finances in some way is higher because some national governments monitor even though they do not have legal authority to intervene to solve subnational fiscal problems (Table 6.5). In particular, 27 of the 33 countries responding to the survey said that the national government monitored the finances of subnationals. As might be expected, there is again a relationship between whether national governments monitor and the constitution of the country. Monitoring is almost universal in unitary countries, and most of the countries in which the national government does not monitor are federal.

Table 6.5. National governments' monitoring of subnational finances

	Monitors	Does not monitor
Unitary Countries	**22:** Czech Republic, Estonia, France, Greece, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Slovak Republic, Sweden, Turkey, United Kingdom; China (People's Republic of), South Africa	**2:** The Netherlands, New Zealand
Federations	**5:** Australia, Austria, Canada, Spain; Brazil	**4:** Belgium, Germany, Switzerland, United States

Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), based on answers to question 11: Does the national government monitor the finances of subnational governments?

One exception to the expected pattern is that national governments reported that they monitored subnational governments in four unambiguously federal countries – Australia, Austria, Brazil and Canada – as well as in Spain. In Brazil, the monitoring includes verifying whether subnationals have complied with fiscal rules set at the national level.

Another exception to the expected pattern is that two national governments of unitary countries, the Netherlands and New Zealand, reported that they did not monitor the finances of subnational governments.

In New Zealand, the system was said to be "sufficiently robust that active monitoring is not required". The response for the Netherlands did not mention the reason for the approach, but Allers (2014[3]) notes that subnational governments in the Netherlands sometimes receive bailouts from the national government and that the fiscal rules governing subnationals are weak or do not bind. Nevertheless, Allers argues, the approach works reasonably well because local politicians want to avoid the loss of autonomy that comes with a bailout.

In the EU, some federal countries have developed innovative kinds of monitoring

In the member countries of the European Union, the finances of subnational governments matter to national governments partly because of the countries' treaty commitments to restrict the debt and deficit of general government (i.e. national and subnational government combined, as defined in macroeconomic statistics). As a result, some monitoring of subnational finances is necessary even if the national government does not have authority over subnational governments. In the federations of Belgium and Germany, the problem has been addressed by a form of co-operative monitoring. In Germany, the accounts of both the national government and the *Länder* are monitored by the Stability Council (*Stabilitätsrat*), which was jointly created by the federal government and the *Länder*. In Belgium, the High Council of Finance performs a similar function.

When monitoring is done by the national government, it is almost always done according to laws or guidelines (Table 6.6). The two exceptions are Canada and Sweden. In unitary countries, it is typically done by the finance ministry or the interior ministry. Often, responsibility for monitoring accompanies responsibility for setting accounting standards (Figure 6.3). Sometimes, both the finance and interior ministries are involved. In France, the Ministry of the Interior monitors local governments' compliance with a golden rule (current spending cannot exceed revenue), while the Ministry of Economy and Finance looks for warning signs of financial trouble by monitoring subnational governments' debt, expenditure rigidity, self-financing capacity, and ability to increase local taxes. As these examples illustrate, monitoring may need to go beyond accounting indicators to include the economic and legal context.

Independent fiscal institutions also play a growing role in monitoring subnational finances, as mentioned in the questionnaire responses from Austria, Lithuania, Spain and Sweden. Independent fiscal institutions tend to examine not only subnational governments' recent fiscal performance, but also their forecast financial performance, providing an important complement to monitoring that looks only at fiscal outcomes. One of their main tasks is typically to report on compliance with fiscal rules, so when the fiscal rules apply to subnationals, as in the European Union, their monitoring of subnationals is especially significant. In Spain, for example, the Independent Authority for Fiscal Responsibility, established in 2013, now plays a major role in monitoring subnational finances (von Trapp et al., 2017[19]).

Table 6.6. Monitoring of subnational finances by national governments

Subtotals for unitary and federal countries

	Monitoring department	Law or guidelines?
Unitary Countries		
Czech Republic	Finance	Yes
Estonia	Finance	Yes
France	Finance, interior	Yes
Greece	Finance, interior	Yes
Iceland	Special committee	Yes
Ireland	Interior	Yes
Israel	Interior	Yes
Italy	Finance, interior, audit	Yes

	Monitoring department	Law or guidelines?
Unitary Countries		
Japan	Interior	Yes
Korea	Interior	Yes
Latvia	Finance and environment and urbanisation	Yes
Lithuania	Finance and independent fiscal institution	Yes
Luxembourg	Interior	Yes
Norway	Interior	Yes
Poland	Finance, supreme audit institution, etc.	Yes
Portugal	Interior	Yes
Slovak Republic	Finance	Yes
Sweden	Finance and independent fiscal institution	No
Turkey	Interior, supreme audit institution, environment	Yes
United Kingdom	Finance and interior	Yes
China (People's Republic of)	Finance	Yes
South Africa	Finance	Yes
Federal countries		
Australia	Finance, central bank, grants commission	Yes
Austria	Finance, fiscal council and co-ordination committees	Yes
Canada	Finance	No
Spain	Finance and independent fiscal institution	Yes
Brazil	Finance	n/a

Note: Includes only those countries in which the national government monitors subnational finances.
Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), answers to questions 12 and 13: If yes [i.e. if the national government monitors subnationals], which institution of the national government does the monitoring? Are there legal requirements or other guidelines for the monitoring?

The nature of the monitoring varies widely

The term "monitoring" encompasses a broad variety of activities, and the nature of the monitoring varies across countries. In some countries, the main purpose of the monitoring is to determine whether subnational governments have complied with fiscal rules and other legal requirements. If the monitoring suggests non-compliance, the national government is likely to have the ability to intervene. In Israel, for example, local governments' budgets must be approved by representatives of the national government and quarterly data on budget execution are reviewed by the Ministry of the Interior, which can intervene in the budgets if it deems this to be necessary.

In other countries, such as Australia and Canada, the nature of the monitoring is different. The national government gathers information, but it is not verifying compliance with fiscal rules with a view to possible interventions in the budgets of the subnational governments. In some cases, the objective of the monitoring may be to identify early warning signs of subnational financial problems, and this may be separate from the monitoring of compliance with rules. Since financial problems can show up first in indicators not governed by rules, this monitoring generally looks at a wide range of indicators. In the cases of Australia, Canada or France, it can be said that the ministry of finance performs an advisory function vis-à-vis subnationals, rather than a surveillance one.

Indicators used for the monitoring

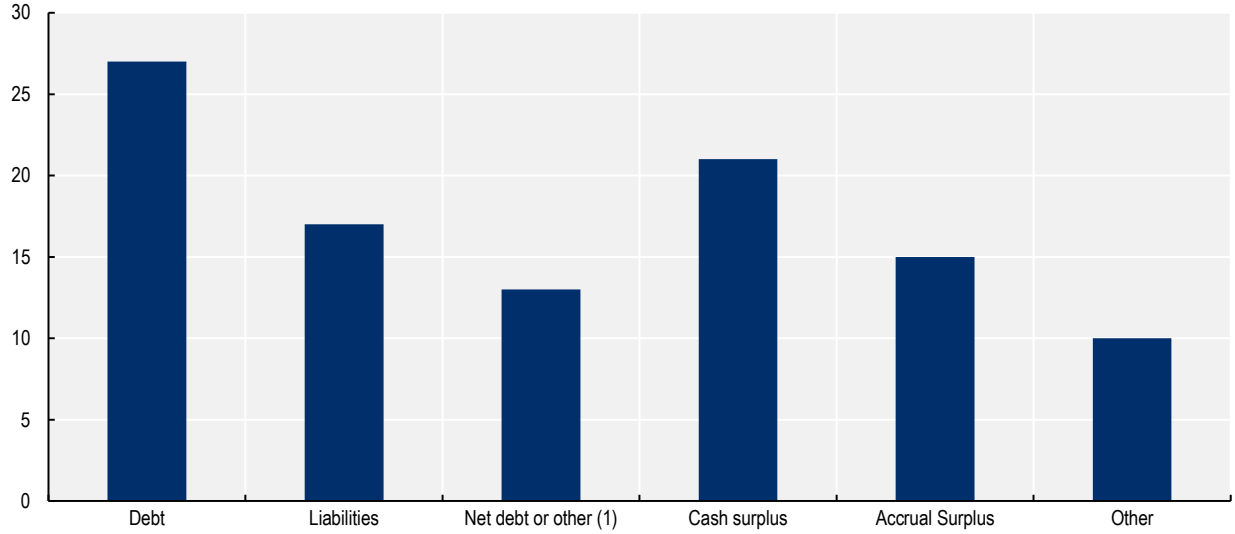
Monitoring of debt and cash deficits is often supplemented by monitoring of accrual-based indicators

The indicators that are most commonly monitored are debt and the cash deficit (Figure 6.7). Subnational governments' debt is monitored in all 27 countries in which subnational finances are monitored, and the cash deficit is monitored in 21 of those countries. The fact that the cash deficit is not systematically monitored in all the countries is a possible concern, because although the accrual deficit can pick up early warning signs of problems not apparent in the cash deficit, the cash deficit is also informative. Subnational governments need to be generating enough cash to meet debt-service and other requirements, and a large unexplained difference in the two surpluses might be a sign that the accrual surplus is being mis-measured (for example, by over-estimating receivables).

In many countries, indicators available only in accrual accounts are also monitored. The accrual deficit is monitored in 15 countries, and liabilities (defined as including not just ordinary debt but also accounts payable, leases and other items) are monitored in 17 countries. Monitoring a broad measure of liabilities is especially useful since subnational governments may borrow in unconventional ways if conventional debt is closely scrutinised or restricted by fiscal rules. Australia, for example, experienced this when conventional borrowing by the states was controlled by the Loan Council (see Box 6.1, above, and Table 6.8). Under the heading of other monitored indicators, Brazil mentioned pensions, Greece arrears, and Latvia guarantees.

Figure 6.8. Indicators monitored

Subtotals for unitary states and federations



Note: Table excludes countries that indicated that national government did not monitor subnational finances.
1. Net debt or other includes net worth and net financial worth.
Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), answers to question 14: Which indicators does the monitoring focus on?

StatLink https://stat.link/lmte7a

Progress is still possible

Overall, the survey results are encouraging in the extent to which the monitoring of traditional fiscal indicators is now supplemented by the monitoring of non-traditional indicators. Moreover, almost all survey respondents said that they believed that the data they received was satisfactory. Nevertheless, the results suggest a few possible remaining problems (in addition to the issues discussed above, including the unavailability of accrual indicators in some countries) and some areas where further progress might be sought.

Only 13 countries monitor subnational governments' net financial worth or net worth. This may prevent identifying early signs of future problems, in relation for example to the losses of entities owned or otherwise controlled by subnational governments. Although serious financial problems in these entities are likely ultimately to show up in the accounts of the subnational government itself, problems may be detected earlier if monitoring encompasses the fair value of the shareholdings as reported in the balance sheet or, of course, if the subnational governments publish accounts that consolidate all controlled entities. Australia and Iceland are examples of countries in which subnationals publish accounts that consolidate controlled entities, as well as showing accounts for a narrower definition of subnational government.[5]

Another possible problem is that there is little evidence of the monitoring of the subnational governments' fixed assets. This may make early detection of problems of deteriorating infrastructure more difficult – a problem analysed, for example, in New South Wales.[6] Conversely, there may be cases (as perhaps in some subnational governments in Spain before the European debt crisis of the early 2010s) where monitoring would reveal riskily high levels of investment in infrastructure.

Although the survey did not include any question on the preparation of forecasts by subnationals, some answers noted that historical information is necessary but insufficient for good monitoring. It is possible for the accounts of a subnational to be healthy even though its prospects are poor, and conversely, for its prospects to be good even though its accounts suggest that it is in bad shape. What also matters is what will happen to its revenue, whether in the form of transfers from a higher tier of government or in the form of its own taxes, and what will happen to its spending obligations, either because of changes in local conditions or because of changes in its responsibilities. Moreover, the subnational's ability to respond to changes is also crucial. Can it raise taxes or cut spending, or are its hands tied?

It is useful, therefore, if subnational governments publish fiscal forecasts, discuss the factors that could cause outcomes to differ from the forecasts, and explain their ability to cut spending or raise revenue if outcomes turn out to be worse than forecasts. Some subnational governments provide medium-term forecasts. The State of Victoria in Australia, for example, publishes "forward estimates" for the three years following the budget year for various categories of revenue and spending, along with a discussion of the economic outlook, and the risks surrounding the economic and fiscal forecasts.[7] New Zealand's local governments publish audited 10-year plans that include financial forecasts.

Benchmarking

Most respondents said that monitoring compared subnational financial indicators with benchmarks (Table 6.7). Specifically, of the 27 national governments that monitor the finances of the subnational governments, 19 said that they monitored against benchmarks, while only seven said that they did not. Most governments publish the results of their monitoring. The Norwegian government said it did not set benchmarks against which to monitor subnational finances, but that it published financial indicators for local governments and compared them to regional or national averages. In many countries, the benchmarks are just the fiscal rules. Only in a few cases, it seems, is the benchmarking used for analysis of the strength of the finances of subnationals that goes beyond checking compliance with fiscal rules.

The use of benchmarking and comparative analysis is likely to be most useful if there are many subnational governments, as for example in France, where there are more than 36 000 communes. If one tier of subnational government contains only a few entities, as with the states and territories in Australia and the provinces in Canada, paying close attention to the special characteristics of each government is feasible and benchmarking is less valuable (on the benchmarking of non-financial performance, see Chapter 4 and Phillips (2018[20])).

The more subnational governments there are, the more attractive is statistical analysis. If there are many subnationals and sufficient time series data on their finances, circumstances and financial problems, it may be possible to develop a statistical model that identifies which indicators have best predicted subnational fiscal problems in the past and to use the model to help predict future problems.

If there are many subnational governments, the form in which their accounts are published or submitted to the national government starts to matter. If there are only a few subnationals, officials in the national government can read the accounts in a form such as a pdf file and enter data as needed into their own files. If there are many subnationals, however, monitoring is much easier if the accounts are submitted or published in a way that facilitates the downloading of the financial data from each subnational.

If there are only a few subnational governments or only a few years of historical data, developing a reliable model may not be possible. More use must then be made of analysts' judgments. Even in this case, however, it may be helpful to ask expert analysts to assign weights to various indicators as predictors of financial trouble and then to use a spreadsheet model to calculate for each subnational an index of risk that employs those weights. It may also be possible to make use of estimates made in other contexts, such as estimates of the links between credit ratings and debt defaults. If the subnationals have credit ratings, it may be possible to apply these estimates directly. In other cases, it may be possible to estimate the credit ratings they would receive.

Categorising subnationals by apparent risk can help identify which ones merit closer scrutiny. Even if there are too many subnationals for close analysis of the finances of each one to be feasible, a model can be used to identify those that seem most at risk. Then analysts can look more closely at the finances of the smaller group to determine whether they are actually performing reasonably or whether remedial action should be taken.

Finally, national governments pursuing the control-and-monitor strategy can enlist the help of analysts outside government by requiring subnationals to publish their accounts. This allows citizens, journalists, and others to investigate subnational finances if they wish to do so. The justification of fiscal decentralisation is that local citizens are often more knowledgeable and more concerned about what is happening in their area than are officials in the national government. For the same reason, local citizens, journalists, and others may sometimes be better at detecting local problems than is the national government.

Table 6.7. Benchmarking, publication and satisfaction with monitoring

	Benchmarked?	Published	Satisfactory
Australia	No	Yes	Yes
Austria	Yes	Yes	Yes
Canada	No	No	Yes
Czech Republic	Yes	Yes	Yes
Estonia	Yes	Yes	Yes
France	Yes	No	Yes
Greece	Yes	Yes	Yes
Iceland	Yes	No	Yes
Ireland	No	Yes	Yes
Israel	Yes	Yes	n/a
Italy	Yes	No	Yes
Japan	Yes	Yes	Yes
Korea	Yes	Yes	Yes
Latvia	Yes	Yes	Yes
Lithuania	Yes	Yes	Yes
Luxembourg	No	No	Yes
Norway	No	No	Yes
Poland	No	Yes	Yes
Portugal	Yes	Yes	Yes
Slovak Republic	Yes	Yes	Yes
Spain	Yes	Yes	Yes
Sweden	No	Yes	Yes
Turkey	Yes	Yes	Yes
United Kingdom	Yes	No	Yes
Brazil	Yes	Yes	No
China (People's Republic of)	n/a	n/a	n/a
South Africa	Yes	Yes	Yes
Total 'Yes'	**19**	**19**	**24**

Note: Table excludes countries that indicated that national government did not monitor subnational finances.
Source: OECD Survey on Subnational accounting and monitoring of subnational finances (2019), answers to questions 15, 16 and 17.

Box 6.2. Subnational accounting and intergovernmental fiscal relations

Subnational accounts provide an important insight into the nature of fiscal federalism within a given country. Central government may both impose requirements on subnational financial reporting *and* control or monitor the subnational expenditure itself (e.g. through fiscal rules). Table 6.8 provides a brief description of these arrangements as they apply to six countries.

Table 6.8. Elements of subnational accounting systems that interact with intergovernmental fiscal arrangements

	Central control and monitoring	Auditing and reporting
Australia	The Loan Council provides a mechanism for discussion and information-sharing. The commonwealth Treasury monitors the finances of the states using the states' accounts.	The commonwealth and the states have agreed to follow a common set of accounting standards set by the Australian Accounting Standards Board, using classifications from government finance statistics.
Brazil	The Fiscal Responsibility Law of 2000 (*Lei de Responsabilidade Fiscal*) imposes fiscal rules and reporting requirements on subnational governments. Among other restrictions, the states cannot have net debt of more than 200% of their net current revenue, and municipalities cannot have net debt of more than 120%.	At present, subnational accounting is partly cash based, but governments are expected to adopt accrual accounting based on IPSAS by 2025. All subnationals are required to publish quarterly data on their finances, but not all subnationals meet this obligation. Although there is a common set of accounting standards, accounting practice is not fully standardised.
France	Local governments have long been subject to a golden rule. More recently, the central government introduced an indicative expenditure-growth limit for the local-government sector. In addition, the supreme audit institution, the *Cour des comptes*, now publishes an annual review of the finances and financial reporting of local governments.	The Ministry for the Economy and Finance and the Ministry of the Interior have established accounting standards and budgetary rules for local governments for many years. To address the challenges in local government accounting, the standard-setter (*Conseil de normalisation des comptes publics*), is publishing new norms that will further standardise the accounting.
Germany	Since 2009, the Stability Council has monitored *Länder* and federal budgets against the fiscal rules of the Stability and Growth Pact as well as a national fiscal rule, the "debt brake", which requires that budgets for each *Länder* and the federation be balanced in structural terms.	The budgets of the federation and the *Länder* are prepared according to the Budgetary Principles Act (*Haushaltsgrundsätzegesetz*), which also requires the provision of detailed data for national accounts and finance statistics. The accrual basis and the cash basis are both authorised for budget preparation.
Iceland	A Monitoring Committee of three members monitors local authority finances. Two members are appointed by the Minister of Local Authorities and one member by the Association of Local Authorities. Specifically, the Monitoring Committee verifies compliance of each municipality with two fiscal rules: a balanced budget rule and a debt ceiling.	In 2011, a new Act on Local Authorities laid out detailed requirements concerning municipalities' accounting standards, financial reporting and audit. Municipalities presently follow accrual accounting policies that are aligned with the national accounting standards for private firms and close to international standards, including for reporting on nonfinancial assets.
United States	One of the distinctive features of the United States in the context of this study is the pursuit by the US federal government and many states of a no-bailout strategy, although a rarely-used national bankruptcy regime for local governments exists.	The federal government has not imposed any accounting requirements on the states, but many states and local governments follow *local* generally accepted accounting principles (GAAP), which primarily consist of the standards issued by the Governmental Accounting Standards Board (GASB).

Source: Annex of Irwin and Moretti (2020[12]).

References

Allers, M. (2014), "The Dutch local government bailout puzzle", *Public Administration*, Vol. 93, pp. 451–470. [3]

Angelo, P. (2013), *Understanding the valuation of public pension liabilities: Expected cost versus market price*, American Enterprise Institute. [16]

Baskaran, T. (2014), "Bailouts and austerity", *CEGE Discussion Papers*, No. 212, University of Göttingen, Center for European, Governance and Economic Development Research. [4]

Dougherty, S. and L. Phillips (2019), "The spending power of sub-national decision makers across five policy sectors", *OECD Working Papers on Fiscal Federalism*, No. 25, https://dx.doi.org/10.1787/8955021f-en. [21]

GAO (2014), *Pension Plan Valuation: Views on Using Multiple Measures to Offer a More Complete Financial Picture*, The Government Accountability Office, http://www.gao.gov/assets/670/666287.pdf. [17]

Herold, K. (2020), "Insolvency Frameworks for State and Local Governments", *OECD Journal on Budgeting*, https://dx.doi.org/10.1787/4fe1859f-en. [8]

Herold, K. (2018), "Insolvency Frameworks for Sub-national Governments", *OECD Working Papers on Fiscal Federalism*, No. 23, OECD Publishing, Paris, https://dx.doi.org/10.1787/f9874122-en. [7]

IMF (2018), *Austria: Fiscal Transparency Evaluation*, International Monetary Fund, Washington, D.C. [18]

Irwin, T. and D. Moretti (2020), "Can subnational accounting give an early warning of fiscal risks?", *OECD Journal on Budgeting*, https://dx.doi.org/10.1787/be73a937-en. [12]

Jenker, E. and Z. Lu (2014), *Sub-national credit risk and sovereign bailouts – Who pays the premium?*, WP/14/20. [1]

Moretti, D. and T. Youngberry (2018), "Getting added value out of accruals reforms", *OECD Journal on Budgeting*, https://dx.doi.org/10.1787/budget-18-5j8l804hpvmt. [13]

Novy-Marx, R. and J. Rauh (2009), "The liabilities and risks of state-sponsored pension plans", *Journal of Economic Perspectives*, Vol. 23/4, pp. 191–210. [15]

OECD (2020), "COVID-19 and fiscal relations across levels of government", *Coronavirus Policy Briefs*, http://www.oecd.org/coronavirus/. [9]

OECD/KIPF (2016), *Fiscal Federalism 2016: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264254053-en. [10]

Phillips, L. (2018), "Improving the Performance of Sub-national Governments through Benchmarking and Performance Reporting", *OECD Working Papers on Fiscal Federalism*, No. 22, OECD Publishing, Paris, https://dx.doi.org/10.1787/ffff92c6-en. [20]

Rodrigues, E. (2019), "Seis Estados já declararam situação de calamidade financeira", *O Estado de S. Paulo*, https://economia.estadao.com.br/noticias/geral,seis-estados-ja-declararam-situacao-de-calamidade-financeira,70002683568. [2]

Sanderson, R., G. Dinmore and G. Tett (2010), "Finance: An exposed position", *Financial Times*, http://www.ft.com/content/0d29fbdc-2aef-11df-886b-00144feabdc0. [14]

Sutherland, D., R. Price and I. Joumard (2006), "Fiscal rules for sub-central governments: Design and impact", *OECD Working Papers on Fiscal Federalism*, No. 1, https://dx.doi.org/10.1787/3e6551ae-en. [11]

UK National Audit Office (2018), *Financial Sustainability of Local Authorities 2018*, http://www.nao.org.uk/wp-content/uploads/2018/03/Financial-sustainabilty-of-local-authorites-2018-Summary.pdf. [6]

von Hagen, J. et al. (2000), "Subnational Government Bailouts in OECD Countries: Four Case Studies", *Inter-American Development Bank Research Network Working Papers*, R-399. [5]

von Trapp, L. et al. (2017), *Review of the Independent Authority for Fiscal Responsibility (AIRef)*, OECD, Paris. [19]

Notes

[1] The OECD Fiscal Decentralisation database is available at http://oe.cd/FDdb.

[2] Australian Bureau of Statistics, Government Finance Statistics 2017-18 (estimate excludes non-financial assets not allocated to a particular jurisdiction).

[3] Whether a country should be classified as federal or unitary is sometimes unclear. Borderline cases include Spain and South Africa. Following Dougherty and Phillips (2019[21]), this study classifies Spain as federal and South Africa as unitary.

[4] Audits conducted by SAIs may include regularity audits (encompassing compliance and financial audits), performance or value for money audits, environmental audits, and forensic audits.

[5] See annex of Irwin and Moretti (2020[12]).

[6] See annex of Irwin and Moretti (2020[12]).

[7] See Victorian Budget 19/20, Strategy and Outlook: Budget Paper 2, available at https://s3-ap-southeast-2.amazonaws.com/budgetfiles201920.budget.vic.gov.au/2019-20+State+Budget+-+Strategy+and+Outlook.pdf (accessed 11 July 2019).

7 Insolvency frameworks for state and local governments

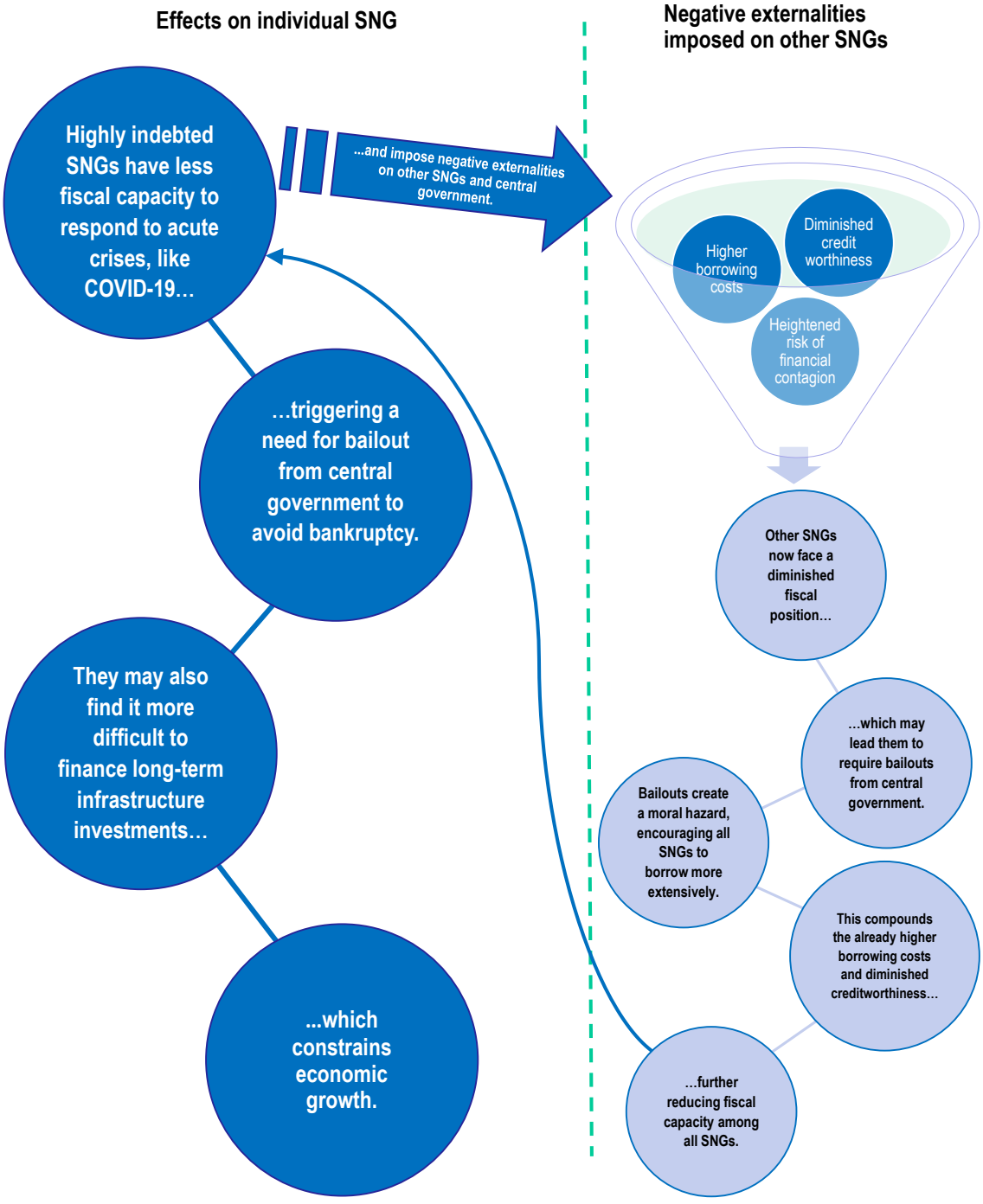
Insolvency frameworks stipulate rules and procedures to resolve debt in a prompt and orderly way. Such frameworks may serve to facilitate debt restructuring and the fiscal recovery even of subnational entities, including states and municipalities. They may even prevent subnational governments from sliding into insolvency. This chapter identifies the benefits of setting up an insolvency framework for subnational governments, complementing existing budget rules and procedures. It analyses different design options of subnational insolvency frameworks by drawing on existing regimes for municipalities in Colombia, Hungary, South Africa, Switzerland and the United States as well as proposals for sovereign bankruptcy procedures in the literature. The chapter also explores the main challenges for implementing subnational insolvency regimes and presents possible solutions.

Introduction and main findings

High indebtedness of subnational governments (SNGs) can lead to serious peril, undermine their proper functioning and impair the provision of essential public services (Figure 7.1).

Figure 7.1. High subnational indebtedness can deprive an SNG of needed fiscal capacity

High levels of indebtedness have short and long-term effects on the SNG, which simultaneously trigger negative externalities affecting other SNGs and central government



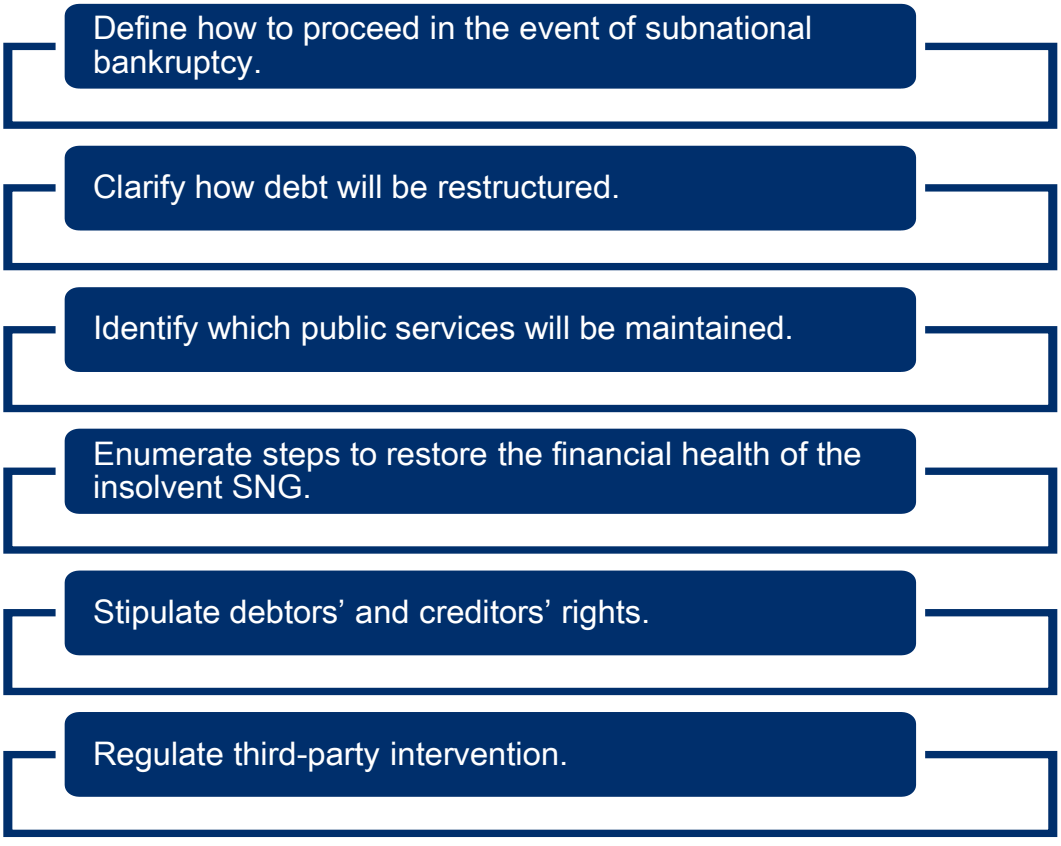
Note: Negative externalities may lead to higher levels of indebtedness among other SNGs and the central government, triggering the same progression of events as affected one or more SNGs initially.

By depriving governments of needed fiscal capacity, it may hinder their ability to cope with acute crises, such as the COVID-19 pandemic. Such indebtedness may also deter infrastructure financing and public investment and thus limit long-term growth. Most notably, increasing debt of a single subnational government can generate negative externalities for other SNGs and the central government by diminishing their creditworthiness and increasing overall borrowing costs. Excessive SNG debt levels raise the likelihood that a debt default leads to contagion, thus impeding all government levels from access to borrowing, and even threatening overall financial stability – as experienced by Argentina. The central government may be forced to bail out SNGs, which can risk triggering unsustainable fiscal policy by SNGs, if the possibility of bail-out encourages moral hazard behaviour.

This chapter stresses the benefits of introducing insolvency frameworks for subnational governments and analyses existing frameworks in Colombia, Hungary, South Africa, Switzerland and the United States, as well as other frameworks discussed in the literature. It also provides options for designing and implementing a subnational insolvency framework with the aim of preventing subnational insolvency and facilitating recovery from a budgetary crisis. The chapter has been adapted from Herold (2018[1]), which contains additional detail and more complete references on the topics covered.

Insolvency frameworks provide rules to resolve unsustainable borrowing in an orderly and prompt way, in an effort to deter bankruptcy and preserve crucial fiscal capacity (Blöchliger and Kim, 2016[2]) (Figure 7.2). More precisely, they define how to proceed when a subnational entity has gone bankrupt, which can include clarifying how debt will be restructured, identifying which public services will be maintained, and enumerating steps to restore the financial health of the insolvent SNG. In addition, they may stipulate debtors' and creditors' rights and regulate third-party intervention.

Figure 7.2. Key functions of subnational insolvency framework



Insolvency frameworks serve to enable a fresh start and to promote a fiscal recovery of highly indebted governments. They may also underpin the commitment of upper-level governments to a no-bailout policy and thus may prevent subnational governments from piling up debt to unsustainable levels. However, only a few countries have established insolvency frameworks, but even these commonly apply only to the local or municipal levels, and only rarely to the provincial or state levels.[1] A summary of the findings of this chapter with respect to the effective design of subnational insolvency frameworks is presented in Box 7.1.

This chapter proceeds as follows: the first part discusses the motivation of insolvency regimes for subnational governments. The second part concludes by describing the design options for insolvency regimes and includes a general framework.

Box 7.1. Key findings

- A well-designed subnational insolvency framework may have substantial merits in supporting budget discipline by enabling higher-level governments to commit *ex ante* to a no-bailout policy. This encourages SNGs and creditors to avoid default in the first instance.
- Ultimately, if an SNG is in severe budget crisis, the insolvency framework contributes to finding an *ex post* solution, ensures clarity and minimises discretion from the outset.
- As a comprehensive statutory approach, a framework is superior to *ad hoc* debt negotiations and contracts that can lead to collective-action problems like holdouts.
- The precise design of the framework depends on which objectives are to be met, such as providing essential public services, enforcing fiscal adjustment and consolidation, deterring strategic default of an SNG, facilitating debt restructuring, protecting the contractual rights of the creditors, limiting interference with subnational sovereignty and constitutional rights.
- These objectives, particularly the provision of essential services and enforcement of fiscal adjustment, assume a particular importance in the presence of exogenous crises, such as COVID-19, which may place sudden strain on the fiscal capacity of SNGs.
- While no one-size fits all, an effective and balanced framework that addresses the objectives mentioned above may include the following elements:
  - *Filing for insolvency*: The framework allows the debtor to file for insolvency, subject to approval by the court permits only a narrow set of eligibility criteria by applying the ultima-ratio principle (deterring moral hazard) and grants an automatic stay on assets (facilitating debt restructuring).
  - *Debt restructuring*: The framework assigns the proposal right to the debtor and the veto right to the court, stipulates a simple majority rule in terms of number of creditors and a qualified majority rule in terms of claims (facilitating debt restructuring) and gives priority to new interim financing (maintaining credit financing) as well as senior claims (over junior claims, preserving creditors' rights).
  - *Fiscal adjustment*: The framework foresees the monitoring of subnational fiscal adjustments (deterring moral hazard) and stipulates sanctions in the case of non-adherence to the rules. This may also help to ensure adequate fiscal capacity in the face of future, unforeseeable shocks.
- Although the experience with existing insolvency procedures is quite positive, such insolvency frameworks may be difficult to implement in other countries. They may not be compatible with constitutional or sovereignty rights and/or may require major structural and institutional reforms to be effective. Their introduction may lead to contagion effects to other government levels or even financial markets. They may also be opposed by lower-level governments and face strong lobbying by creditors, as political decision makers and creditors will be made responsible for the budgetary and financing decisions.
- Certain approaches may help to solve these implementation problems, such as opt-out/opt-in options, a minimalist framework for subnational amendments, gradual evolution/transition paths, central-government guarantees, conditional transfers, and/or a debt-redemption fund.

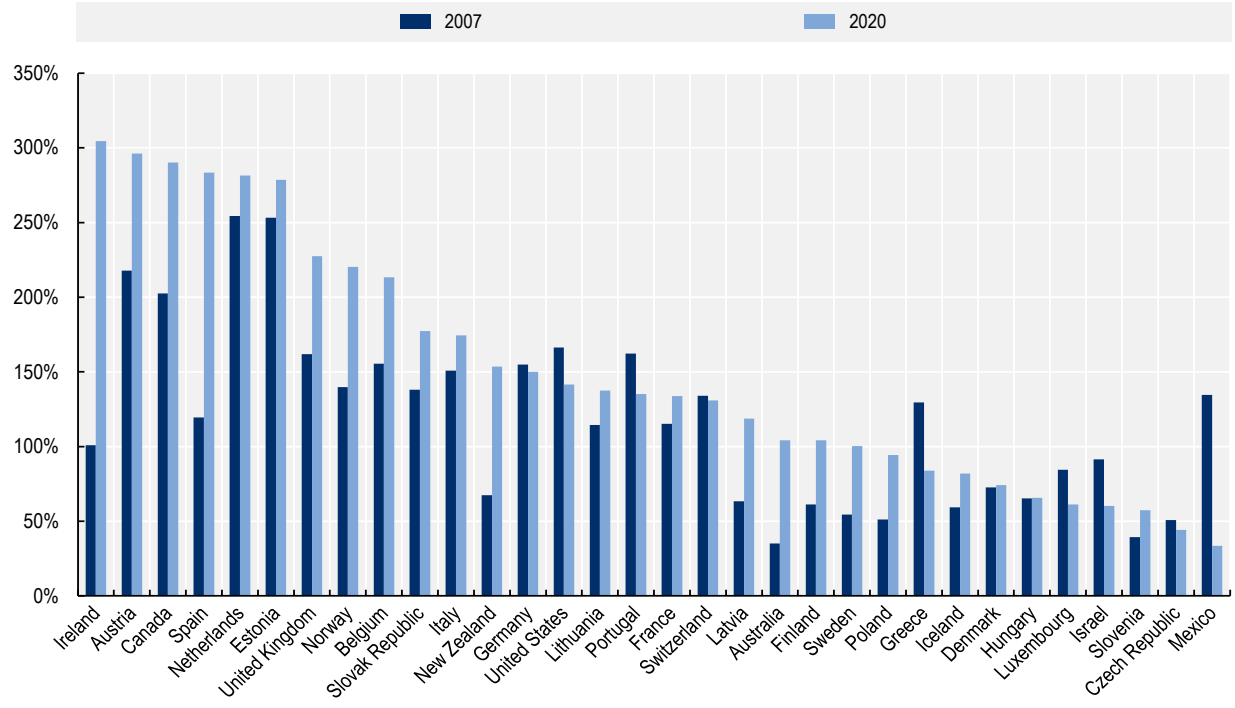
The case for subnational insolvency frameworks

Subnational finances

Subnational governments (SNGs) including state and local governments play a large role in public finances in many countries. In most, SNGs are responsible for the provision of essential public services (e.g. education, infrastructure maintenance, garbage collection, water supply). OECD-wide in 2014, SNGs accounted for 31% of total government spending and 19% of own revenue (from own and shared taxes and user fees).[2] The gap between subnational spending and subnational own revenue – the vertical fiscal imbalance – is bridged by intergovernmental transfers or subnational borrowing.

SNGs incur low levels of public debt compared with the central government. In 2020, SNG outstanding debt represented on average only 13% of GDP and 14% of combined national and subnational debt in the OECD. However, as SNGs have less taxing power and draw on a much smaller revenue base than central governments, a better indication of their capacity to repay debt is given by debt relative to revenues rather than GDP. SNG debt is high as a share of SNG revenues and has increased in the majority of OECD countries, amounting to 150% on average in the OECD in 2020. Apart from the relatively stable fiscal position of many SNGs, some were hit hard by the global financial crisis and the COVID-19 pandemic (Figure 7.3).

Figure 7.3. Ratio of subnational debt to own revenue



Note: Data for 2019 are used for Israel and New Zealand; debt and revenue data are on a consolidated basis where available.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/6dugme

Drivers of subnational debt: The problem of soft budget constraints

High SNG indebtedness may be driven by institutional deficiencies (e.g. limited taxing capacity) or persistent structural problems where revenues from own sources and intergovernmental transfers are insufficient to meet the spending obligations. It may also be attributed to the existence of a soft budget constraint: if the central government is unable to credibly commit to a no-bailout policy in case of a subnational financial crisis, SNGs are likely to engage in moral hazard. Budget discipline may become lax, leading to excessive deficits, which in turn elicit transfers from central government.

A number of factors influence the likelihood of bailouts and the occurrence of soft-budget constraints. For example, regions might be considered too big to fail, too small to fail or too sensitive to fail. Bailout expectations might be driven by political-economy factors such as the same party affiliation of higher and lower-level governments. They may be affected by imbalances in the assignment of spending, revenue and borrowing autonomy. They are shaped by explicit or implicit bailout guarantees such as constitutional rules prohibiting debt enforcement against subnational assets or demanding solidarity in case of subnational financial distress. Bailouts in the past may serve as precedents for future bailouts.

Options for preventing excessive subnational debt

The negative implications of excessive subnational debt call for various measures that safeguard and restore subnational financial discipline and address the problem of soft budget constraints.

Strengthening budgetary institutions

During the last decade, many countries have strengthened their budgetary institutions to restrict excessive subnational borrowing (Blöchliger and Kim, 2016[2]). Budgetary institutions are rules and regulations according to which budgets are drafted, approved and implemented. They include fiscal rules, procedural rules and rules regarding the transparency of the budget and may be complemented by fiscal or intergovernmental councils and other arms-length agencies.

Strengthening budgetary institutions may contribute to subnational fiscal discipline – as empirically shown for the American states by Von Hagen (1991[3]), Poterba (1994[4]), Alesina and Bayoumi (1995[5]) and Fatás and Mihov (2006[6]). However, cross-country evidence for the positive relationship between the strength of budgetary institutions and subnational fiscal discipline is ambiguous (Fornasari, Webb and Zou, 2000[7]; Jin and Zou, 2002[8]). For example, in many cases strict rule enforcement is not achieved. Borrowing restrictions can be evaded by using sale-and-lease-back operations (Jorgen and Pedersen, 2002[9]; Letelier, 2011[10]) or by accumulating off-budget debt (Ahmad, Bordignon and Giorgio, 2004[11]).

Balancing borrowing, tax and spending autonomy and aligning autonomy with responsibility

Excessive debt is not only facilitated by weak budgetary institutions and a high degree of borrowing autonomy; it is also due to imbalances between subnational spending, tax and borrowing autonomy, leading to a low degree of fiscal autonomy. These imbalances of fiscal autonomy and misalignments with responsibilities are predominant in so-called mixed systems, where SNGs have large spending and borrowing powers, exhibit little tax autonomy, and thus depend heavily on federal transfers (e.g. fiscal equalisation schemes, tax sharing arrangements, and other intergovernmental transfers).

Imbalances of fiscal autonomy and misalignments may force local government to debt finance their assigned tasks when revenues from taxes and transfers are not sufficient. It may also set fiscal disincentives. Other than in federal countries like Switzerland, or unitary countries like the United Kingdom where budget decisions are internalised by each jurisdiction, mixed systems like that in Germany create fiscal externalities allowing debt to be shifted to other jurisdictions (Blankart and Klaiber, 2006[12]): SNGs draw on resources, which are not their own (the “common-pool problem”) and expect to be bailed-out in

case of an emergency. Then, they are likely to overspend, reduce tax-raising efforts and run large deficits (see Figure 7.1).

Case studies from Italy (Bordignon, 2000[13]), Argentina (Webb, 2003[14]; Nicolini et al., 2002[15]) or Germany (Seitz, 2000[16]; Rodden, 2003[17]; 2005[18]) as well as some cross-country empirical evidence (Rodden, 2002[19]; Singh and Plekhanov, 2005[20]) have shown that the existence of large vertical fiscal imbalances and a high degree of transfer dependency are related to less fiscal discipline. According to Bartolini et al. (2015[21]), both subnational and central budget balances deteriorate with the declining degree of correspondence between subnational own revenues and spending. Blöchliger and Kantorowicz (2015[22]) also show positive correlations between low fiscal coherence of constitutions, which includes imbalances in fiscal autonomy and a low degree of responsibilities, and negative fiscal outcomes.

Market discipline

SNGs draw on different liabilities, including loans, government bonds, arrears to suppliers and pension liabilities (Box 7.2). Creditors like lenders and bondholders reward budget discipline with low borrowing costs and punish the deterioration of fiscal fundamentals. The higher creditors assess the risks of future defaults, the higher is the interest rate a subnational entity has to pay. Capeci (1994[23]) and Bayoumi et al. (1995[24]) confirm the disciplinary function of market institutions. They show for American municipalities that, when debt levels rise, bond yields increase first gradually at low and then rapidly at high debt levels. Above a certain debt level, credit becomes rationed.

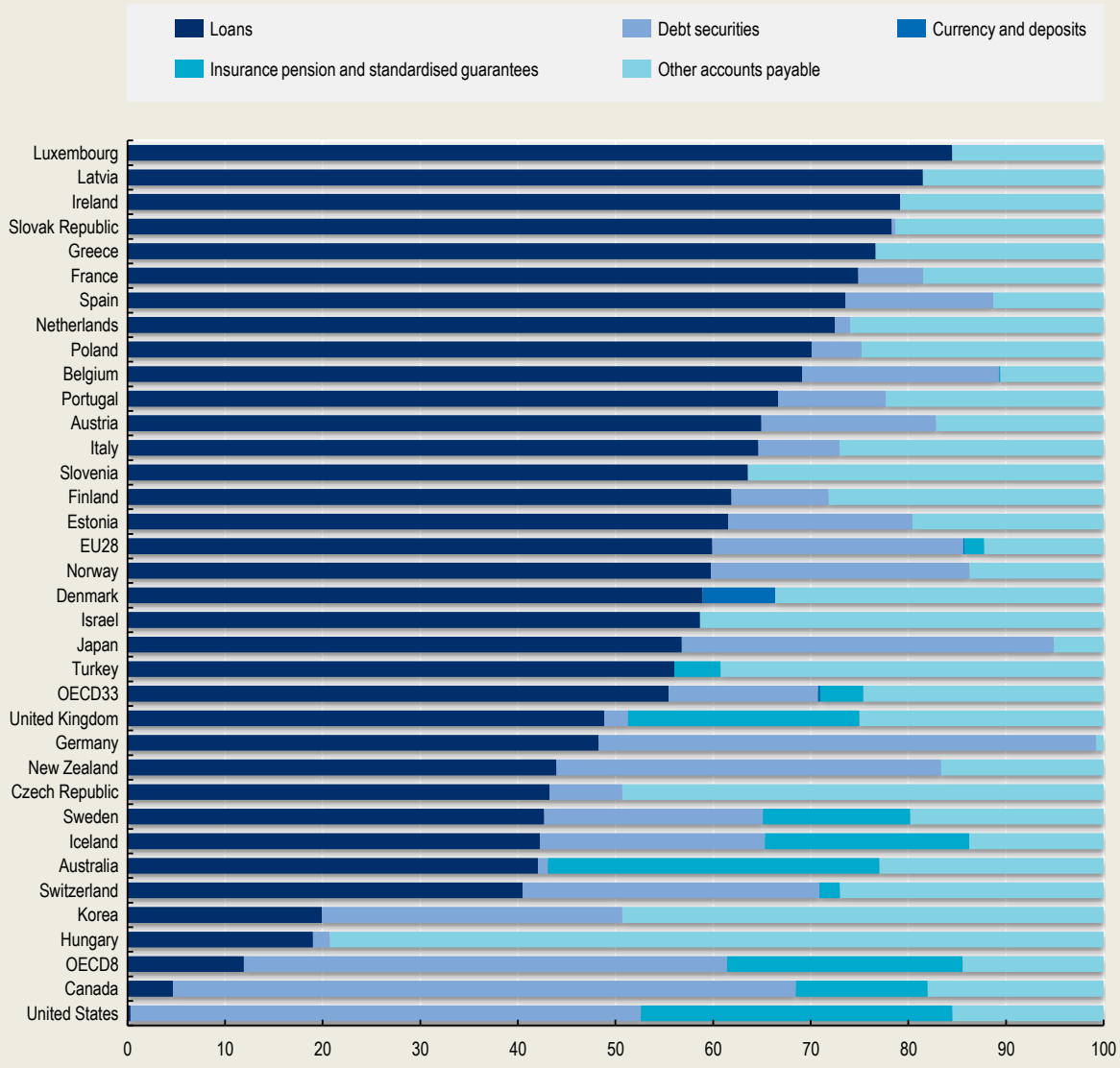
In many cases, the credit market does not effectively limit subnational borrowing (Blöchliger and Kim, 2016[2]). Often adequate information about the borrower's outstanding debt and repayment capacity is not available. Moreover, in a number of countries, SNGs can draw on loans either from central government (Ireland, Slovak Republic) or from banks which are related to SNGs (Denmark, Finland, German municipalities). In this way, SNGs get privileged access to financing and do not compete with private borrowers. In case of positive bailout expectations, creditors may under-price subnational default risk. They grant highly indebted SNGs credit at preferential conditions, irrespective of their financial situation.

A number of empirical cross-country studies (Schuknecht, von Hagen and Wolswijk, 2009[25]; Sola and Palomba, 2015[26]; Beck et al., 2016[27]) show that the link between fiscal fundamentals and the cost of borrowing – indicated by the yield spread of SNG bonds – breaks down, if bailouts are explicitly provided or implicitly anticipated. While bailout expectations improve credit conditions for SNGs, they deteriorate the conditions of the central government. Jenkner and Lu (2014[28]) provide evidence using Spanish data that – once a bailout is announced – default risk is transferred from the sub-sovereign level to the central government, simultaneously decreasing subnational risk premia and increasing sovereign ones.

Box 7.2. Types of subnational debt

The major part of subnational debt (75% of total debt on average in the OECD at the end of 2016) is financial debt, comprising loans and debt securities (e.g. government bonds). Debt securities are the predominant source of debt financing in federal countries such as the United States, Canada and Germany (over 50% in these countries, in the figure below). They are also widespread in some unitary countries such as Japan (38%), Korea (31%) and Norway (27%). However, unitary countries mainly use traditional loans from central government, public banks or commercial banks, which constitute a share of 60% (OECD33), compared with 24% on average in federal countries (OECD8). A smaller part of SNG debt includes non-financial debt like the sum of other accounts payable (arrears, suppliers' debt, etc.) and pension liabilities (insurance pensions and standardised guarantees).

Figure 7.4. Composition of subnational debt by liability type, 2016



Source: OECD (2018), OECD Subnational Government Structure and Finance database.

StatLink https://stat.link/olpixn

The case for subnational insolvency frameworks

Commitment device for a no-bailout policy

The mere existence of an insolvency framework may signal that the upper-level government is likely to refrain from a bailout and reduces creditors' and debtors' moral hazard. Creditors might expect that their (subordinated) claims will lose value in case of a subnational insolvency. They are forced to scrutinise the creditworthiness of the SNG and price in the probability of subnational defaults and the possible debt discharge (e.g. through putting a higher premium on the borrowing rate). To avoid high borrowing costs, limited access to the capital market and/or the stigma of bankruptcy, the debtor may pursue a prudent fiscal policy. Hence, insolvency frameworks may serve to prevent SNGs from bankruptcy (the "preventive function"). They complement and enforce existing measures to safeguard financial discipline and to harden the budget constraint of SNGs.

Solving collective action problems

The insolvency framework can serve to solve collective-action problems like holdouts arising in the debt-negotiation process (Box 7.3). Debt restructuring may involve extending the maturity of debt and reducing the amount of interest and principal payments. In the case where a minority creditor is able to block a majority creditor, the minority may strategically hold out from agreeing to a reasonable restructuring plan in the hope of recovering payment on the full contractual claim or obtaining more favourable terms. This might even induce willing creditors to vote against a restructuring (McConnell and Picker, 1993[29]). Consequently, holdouts reduce the value of the other creditors' claims. Ultimately, they create substantial delays in finding a solution to the debt problem and prevent a rapid recovery.

The holdout problem may be a particular issue for SNGs whose debt is held by a large number of bond investors rather than by a single bank, as is the case in American states (Conti-Brown, 2012[30]). The United States' subnational debt does not consist of loans, but mainly of debt-securities (e.g. government bonds) (see Box 7.2). Changing payment terms of the bonds (e.g. maturity date, coupon, repayment of a bond) in general requires unanimous consent among bondholders. Due to the high number and diverse, constantly changing identities of the bondholders, this can hardly be achieved (Schwarcz, 2011[31]).

Box 7.3. Collective action clauses

Contractual approaches such as collective action clauses (CAC) can help to mitigate the collective-action problem. They permit modifications in payment terms with the consent of a qualified majority of bondholders, but they have some limitations (IMF, 2014[32]). Firstly, CACs are not always included in bond indentures (Schwarcz, 2002[33]). CACs are commonly used for sovereign bonds under English and New York law (Andritzky et al., 2016[34]). They also have been mandated for all newly issued government bonds of euro area countries since 2013 according to Art. 12 of the ESM Treaty. However, relatively few state bonds have included CACs (Schwarcz, 2011[31]). States could insert these provisions *ex post* into bond identures – but an agreement with the creditors might be difficult or costly to reach. Exchanging existing bonds with bonds of supermajority voting might require changes in the payment terms (Schwarcz, 2002[33]). Secondly, as CACs operate on a series-by-series or agreement-by-agreement basis, the majority principle may hold for a specific bond issuance, but not for the aggregate. Hence, a debt-restructuring agreement might still fail, if one group of creditors or bondholders cannot achieve the requisite majority. A possible remedy is a modification in the voting procedures of CACs (e.g. "single limb'' or "'two-limb" voting procedure)[1] (IMF, 2014[32]). However, these changes might take time to become a significant part of public debt contracts (Fuest, Heinemann and Schröder, 2016[35]). Above all, CACs apply only to bonds. They do not solve equity concerns and collective-action problems arising among both bondholders and other creditors (Krueger, 2003[36]).

1. A "single-limb" voting procedure requires only a single vote calculated on an aggregate basis across all affected bond series. A "two-limb" voting procedure additionally differentiates among different types of creditors.

Insuring against harmful effects and enhancing transparency

Apart from its corrective and preventive function, an insolvency regime also serves as an insurance device against the long-term negative effects of exogenous shocks such as sharp decreases in public service levels. A restructuring of debt, such as rescheduling or even a partial cancellation, allows the SNG to recuperate from adverse events without being forced to make unreasonable decisions on spending cuts and tax increases. Debt repayment may also be postponed until economic conditions improve.

Furthermore, insolvency regimes can enhance the transparency of the finances of subnational entities. Fiscal transparency is an integral part of many existing insolvency frameworks, as filing for insolvency requires SNGs to disclose all fiscal and financial information, which is often scrutinised by independent third parties.

Existing insolvency frameworks and regulations on debt resolution

Measures for coping with subnational financial distress

For coping with subnational financial distress, countries rely primarily on budget rules and budget institutions to restore the financial health of subnational governments. Table 7.1 provides an overview of the measures of selected countries (for more detail see (Herold, 2018[1]), Table A.1.).[3] In most countries, some form of consolidation plan has to be elaborated that defines expenditure cuts and tax increases. Measures may also involve some intervention by higher-level governments, which, for example, monitor the implementation of consolidation plans and approve subnational borrowing decisions. In some countries, higher-level governments can put an SNG under forced administration – as found in some states in Germany. The state government can appoint an administrator to take over some or all tasks of a municipality where the measures mentioned above turned out to be insufficient. In Denmark, non-compliant local governments may in theory face sanctions (e.g. penalties), though they are rarely imposed in practice. SNGs may also be assisted by transfers. For example, in the Netherlands, financially troubled municipalities (so-called Article 8 municipalities) may receive supplementary grants, if revenues are significantly and structurally insufficient to cover necessary outlays. The Spanish government may provide liquidity through transfers to autonomous communities and local corporations.

Table 7.1. Overview of rules dealing with financially distressed municipalities and states in selected countries

	Insolvency frameworks		Debt-enforcement rules		Other rules dealing with SNGs in financial distress			
	Comprehensive insolvency framework	Private insolvency framework	Single debt enforcement rules	Prohibition of debt enforcement/ insolvency proceedings	Specific transfers	Implementation of consolidation plans	Intervention by higher level government	Sanctions
Belgium regions	○	○	○	○	○	●	●	●
Denmark	○	○	○	○	○	●	●	●
Germany local	○	○	○	(●)	●	●	●	●
Germany *Länder*	○	○	○	●	●	●	●	○
Korea	(●)	(●)	○	○	●	●	●	
Netherlands	○	○	○	○	●	●	●	
Norway	○	○	○	●	○	●	●	
Spain local	○	○	○	○	●	●	●	●
Spain states	○	○	○	○	●	●	●	●
Switzerland local	●	○	○	○	●	●	●	●
Switzerland cantons	○	●	○	○	○	●	●	○
Turkey	○	○	●	○	○			

Note: ○ not existent/ not applied, ● existent/ applied, (●) Korea: applicable for subnational public companies, Germany local governments: applicable only if specified by state law.
Source: OECD Fiscal Network – Survey on subnational debt resolution. See for more detail Annex A, Table A.1.

Only a few countries have regulations that deal with subnational insolvencies. Many countries, such as Denmark and Australia, have not developed any rules dealing with the resolution of debt in case of a

subnational fiscal crisis. In Germany and Norway, insolvency proceedings against assets of the states (Germany) or counties and municipalities (Norway) are even prohibited. In these countries, states or municipalities/counties cannot be declared insolvent.[4] Other countries, like Austria, explicitly allow debt enforcement against municipal assets, but do not have specific rules on how to proceed in case of an insolvency (Nunner-Krautgasser, 2013[37]). In Turkey, municipalities may not become subject to bankruptcy proceedings but to debt enforcement according to the Code of Debt Enforcement and Bankruptcy (1932). In Switzerland, the personal and corporate insolvency law is only applicable to the cantons and regions. Swiss municipalities in financial distress may become subject to an insolvency framework – as outlined in Box 7.4.

Box 7.4. Existing municipal insolvency frameworks

A prominent example is the Chapter 9 procedure in the United States deriving from the Bankruptcy Act 1938, which was adopted during the Great Depression and which has led to multiple municipal defaults. At that time, many municipalities had issued bonds for debt financing. Defaulting municipalities were faced with the holdouts in debt negotiations. The primary aim of the Act was to deal with this collective-action problem arising in debt negotiations (McConnell and Picker, 1993[29]; de Angelis and Tian, 2013[38]).

The origin of the regulation in Switzerland dates back to the 19th century, when a few financially distressed municipalities had to be bailed out by upper-level governments. At that time, insolvency rules had been developed but not implemented. Further attempts of regulating insolvency were made during the economic crisis of the 1930s to prevent creditors from getting into trouble because of subnational defaults. But it was not until 1947 that the Federal Law on Debt Enforcement of Municipalities and other Corporations of Cantonal Public Law was adopted under the pressure of banking institutions and insurance companies (Schaltegger and Winistörfer, 2013[39]).

The need for regulation of insolvencies in Hungary, Colombia and South Africa is attributed to systemic and institutional changes. In Hungary, new regulations for local governments came into force in 1990 that permitted unregulated subnational borrowing and resulted in sharp public-spending increases. With the macroeconomic downturn in the mid-1990s, many local governments were in severe financial difficulty and received central government grants to stay afloat. The Hungarian Municipal Debt Adjustment Law was enacted in 1996. The aim of the insolvency regime was to limit moral hazard stemming from the bailout precedents and thus to restore local fiscal discipline and to allow the development of a credit-rating system (Jókay, 2013[40]).

Colombia underwent a rapid decentralisation process, which started in the 1970s and accelerated in 1991. SNGs were granted more responsibilities for public-service provision and relied on increasing transfers by the central government. Hence, incentives to raise own resources and to safeguard fiscal discipline were weak. Rising debt and expenditure levels induced the Colombian government to pass several laws that aimed at overcoming institutional and regulatory shortcomings and to discourage excessive spending and borrowing. One of these measures is the provision of a debt-restructuring mechanism defined in the Law 550/1999 and complemented by Law 617/2000 (del Villar et al., 2013[41]).

In South Africa, after the fall of apartheid, municipalities experienced key changes – the central-government guarantee of local debt was abolished, and municipal boundaries were redrawn (combining black and white, poor and wealthy urban communities). As finances of the amalgamated municipalities deteriorated, extensive inter-governmental grants were provided, limiting the need to borrow. South Africa's motivation behind the Municipal Financial Management Act 2003 was also to provide a comprehensive framework for its SNGs that regulates municipal finance and borrowing, thereby developing a capital market for municipal finance (Brown, Motsoane and Liu, 2013[42]).

Insolvency cases

Existence of subnational insolvency frameworks

The effectiveness of insolvency frameworks' corrective function can be analysed by reviewing some cases. Fewer conclusions can be drawn about their preventive function (this is an area for further investigation).

The Hungarian Municipal Debt Adjustment Law was applied to 38 filings between 1996 and 2010. About half of them were caused by projects related to overinvestment, imprudent borrowing and rosy projections of operating expenses and revenue. The law has established a clear no-bailout rule, minimising moral hazard. It is transparent, such that no disputes concerning procedures arose in any of the cases. The local assemblies co-operated with the court and the trustee in each bankruptcy procedure. No assembly was threatened with dissolution or a new election. Vital public services were maintained in each case. However, insolvency rules may have turned out to be too strict for both the debtors and the creditors. Many municipalities that met filing criteria did not file for bankruptcy (although obligatory). The non-transparency of the accounting system (cash-based) makes it difficult to detect insolvency. Lenders and suppliers were also reluctant to initiate the insolvency procedure as they feared to lose their claims. In consequence, debt restructuring was often settled informally outside the insolvency procedure, possibly to the detriment of the other creditors (Jókay, 2013[40]).

Switzerland experienced only one insolvency case. At the end of 1998, after having piled up debt amounting to CHF 346 million due to poor investment decisions, the Swiss municipality of Leukerbad became insolvent (Uebersax, 2005[43]). The municipality was placed under forced administration. The municipal government as well as certain creditors sued the Canton Valais (Wallis) for having failed its supervisory duties. They claimed that the Canton should, as a consequence, take over the debt. In 2003, the Federal Supreme Court dismissed the claims. It decided that the law does not stipulate the cantonal liability for the obligations of the municipality. In consequence, creditors accepted a debt relief of 78% of their claims. The Canton Valais provided a guarantee of CHF 30 million (Jochimsen, 2007[44]; Feld et al., 2013[45]). Every year, Leukerbad has to repay CHF 1.3 million (Teevs, 2013[46]). Within a decade, outstanding debt was reduced significantly (to CHF 13 million at the end of 2013) which corresponded to the municipal average in the Canton Wallis (Tagesanzeiger, 2014[47]).

Besides the rehabilitation of Leukerbad, the application of the insolvency procedure generated further positive effects. It triggered the development of a differentiated rating system for the cantons and some municipalities as well as reforms in accounting standards at the municipal and cantonal level (Blankart and Fasten, 2009[48]). Most importantly, the verdict in 2003 established a credible no-bailout policy and restored the functioning of the capital market: With the court's decision, the cantons were relieved from backing their municipalities facing serious financial problems. As a result, cantonal yield spreads decreased significantly and the link between cantonal risk premia and the budgetary position of the municipalities in the canton was cut (Feld et al., 2013[45]).

From 1980 to 2016, 305 petitions under the United States' Chapter 9 procedure were filed, with general purpose municipalities constituting only a small part (17.5% of those from 1980-2007). Most filings involved municipal utilities, special purpose districts or other public agencies of a state. Chapter 9 turned out to be effective to restore financial viability when unsustainable debt positions were due to a one-time event, mostly by wrong investment decisions, for example by Orange County, California and Westfall, Pennsylvania. It was ineffective when the financial problems were the result of structural problems involving the erosion of the tax base, loss of manufacturing jobs and a decaying infrastructure (e.g. Prichard, Alabama and Vallejo, California). One reason is that Chapter 9 has little impact on the fiscal adjustment process and does not launch deeper administrative reforms (McConnell and Picker, 1993[29]). It might even aggravate the financial situation, for example by increasing administrative costs due to retaining legal and financial professionals, complying with court requirements or negotiating with creditors (de Angelis and Tian, 2013[38]).

The largest municipal bankruptcy filing in United States history is that of Detroit, Michigan. Having accumulated debt amounting to over USD 18 billion (USD 26 000 per inhabitant), Detroit filed for insolvency under Chapter 9 in July 2013. By the end of 2014, after 16 months, Detroit emerged from it. In November 2014, the court approved the debt restructuring plan that had been negotiated with bondholders and pensioners. According to the plan, liabilities will be reduced by USD 7 billion. Creditors experienced a substantial haircut of 80% on their claims, while pensions were cut only slightly. Fees to lawyers, consultants and financial advisors related to the bankruptcy totalled more than USD 150 million. In conclusion, the insolvency proceeding of Detroit enabled a fresh start. It launched an administrative restructuring process and attracted new industries and capital (Geissler, 2015[49]).

In May 2017, the United States territory of Puerto Rico declared insolvency. Its liabilities amounted to USD 122 billion in total (USD 35 000 per inhabitant and 124% of GDP)[5] – consisting of USD 74 billion in bond debt and USD 49 billion in unfunded pension obligations (Williams Walsh, 2017[50]). As a result of failed debt negotiations, Puerto Rico was submitted to the bankruptcy-like procedure as set out in the Puerto Rico Oversight, Management and Economic Stability Act (PROMESA) since Chapter 9 is not applicable owing to its status as a United States territory. It established an oversight board of external experts with wide-reaching powers and a process for restructuring debt and other measures in order to overcome the Puerto Rican debt crisis. The law has received much criticism which raises the question about the optimal design of insolvency regimes. One concern is that Title IIII of PROMESA is substantially different from Chapter 9 rules – especially in assigning powers to the parties involved in the debt-restructuring process. Under PROMESA, the Puerto Rican government will have fewer rights than a municipal government under the Chapter 9 bankruptcy procedure (e.g. concerning the right of filing, negotiating with the creditors, making a restructuring proposal).

Proposals for subnational or sovereign insolvency frameworks

In the literature, some proposals for subnational insolvency frameworks can be found which specifically address the level of state governments. Schwarcz (2002[33]) proposes a general model law of a subnational debt restructuring mechanism based on United States corporate and personal bankruptcy law that could be enacted in other countries. Explicit approaches for the American states are provided by Schwarcz (2011[31]), Skeel (2012[51]) and Feibelmann (2012[52]), applying the United States bankruptcy law to the state level. An insolvency framework for the Swiss cantons is elaborated by Waldmeier (2014[53]).

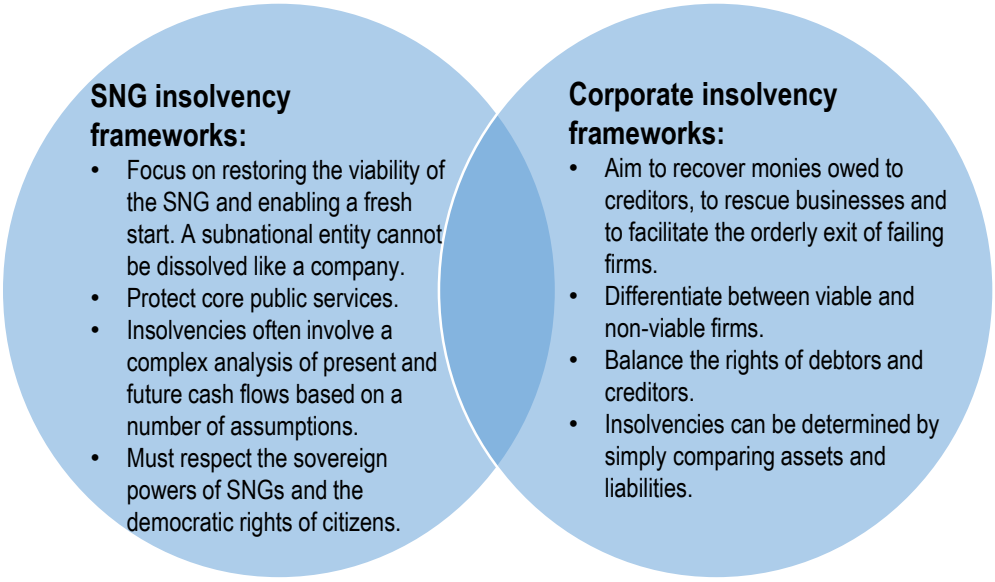
Moreover, an extensive literature exists which deals with bankruptcy procedures and debt restructuring for sovereign states. The literature may also be applicable to the states and provinces in federal countries which exhibit a high degree of sovereignty and, like national governments, rely predominantly on debt financing through government bonds. The most prominent model is the Sovereign Debt Restructuring Mechanism (SDRM) developed by Anne Krueger in (2001[54]) – a formal IMF controlled mechanism for an orderly restructuring of unsustainable sovereign debt. It was extensively debated, refined (Krueger, 2003[36]; IMF, 2002[55]; 2003[56]), but finally failed to be implemented. Related work was done by Raffer (1990[57]) and Schwarcz (2000[58]; 2002[33]), Bolton and Skeel (2004[59]), and Paulus (2002[60]; 2009[61]).[6] The fiscal crisis in Greece and the establishment of European Stability Mechanism led to a resurgence of discussions of sovereign debt restructuring mechanisms. An application of the SDRM to the euro area is proposed by Gianviti et al. (2011[62]). Other approaches envisaging an orderly debt restructuring mechanism for the euro area are provided, for example by Fuest et al. (2016[35]) and Andritzky et al. (2016[34]).

Designing insolvency frameworks

Differences between public and corporate insolvency

Insolvency frameworks for SNGs follow the same rationale as personal and corporate insolvency regimes, however they differ in certain respects (Figure 7.5).

Figure 7.5. SNG insolvency frameworks vs corporate insolvency frameworks



The aim of a corporate insolvency framework is to recover money owed to creditors (e.g. by repossessing collateral assets of debtors), to rescue the business and to restore its viability through restructuring its liabilities. It may also serve to permanently wind-up a failing firm through liquidating assets and facilitating an orderly exit. In contrast, subnational insolvency regimes, like personal bankruptcy regimes, focus solely on restoring the viability of the subnational entity and enabling a fresh start. A subnational entity cannot be dissolved like a company.

While corporate insolvency regimes differentiate between viable and non-viable firms and balance the rights of debtors and creditors, subnational insolvency frameworks focus on protecting the core functions of the subnational entity. Many services need to be provided publicly so that a certain service level can be guaranteed. Hence, in the restructuring process, claims by government and employees (including pensioners) are often given priority over other claims (e.g. from creditors and suppliers). Only a limited number of assets can be seized while maintaining basic public services, whereas a wide range of assets can be sold in a private sector insolvency.

SNGs face difficulty in accurately valuing their assets and identifying the triggers of insolvency. In contrast to private and corporate insolvencies, subnational insolvencies cannot often be determined by simply comparing assets and liabilities. Some SNGs use cash rather than accrual accounting (see the next chapter of this volume). Others are protected against the seizure and sale of assets. In many cases, the assessment of insolvency has to involve a complex analysis of present and future cash flows based on a number of assumptions.

Subnational frameworks must have regard to the sovereign powers of SNGs and the democratic rights of the citizens. This constrains, for example, the creditors' right to initiate the insolvency procedure and reduces the possibility of third party intervention into the debt restructuring and the adjustment process. While in many countries (e.g. Germany, France, and the United States) creditors may file for corporate restructuring and liquidation procedures, most subnational insolvency proceedings can only be initiated by the debtor.

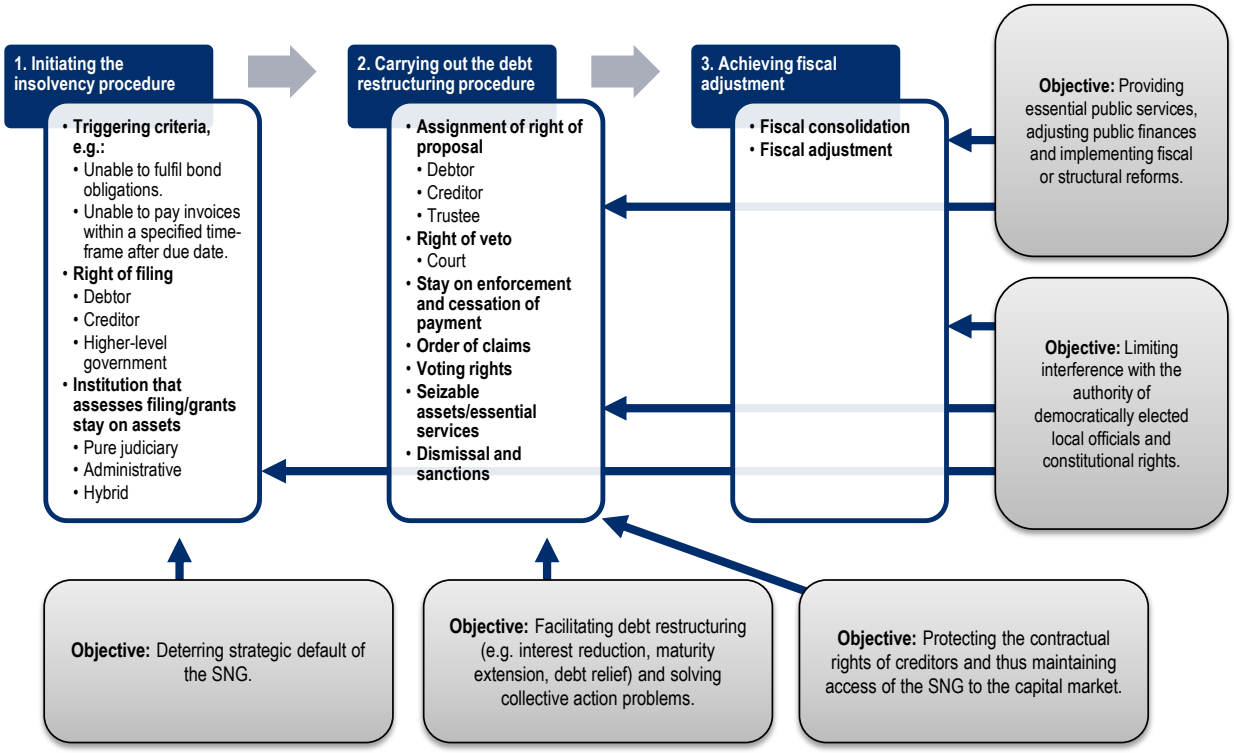
General design features

Procedures and objectives

As seen in Figure 7.6, the usual characteristics of insolvency frameworks can be summarised as a process encompassing the following common steps: *i)* initiating the insolvency procedure, *ii)* carrying out the debt restructuring procedure, and *iii)* achieving fiscal adjustment.

Figure 7.6. The insolvency framework as a sequential process

Within the context of a framework, insolvency involves a series of steps that correspond to certain objectives



In the first step, the framework determines the trigger criteria which need to be fulfilled to file for insolvency. It assigns the right of filing to debtor, creditor, or higher-level government. It determines which institution (e.g. court or higher-level government) is involved in the assessment of filing and whether a stay on assets is granted to the subnational entity. Second, for carrying out the debt settlement process, the framework assigns the right of proposal (e.g. debtor, creditor, trustee) and the right to veto the proposal (e.g. court), identifies the order of claims, stipulates the creditors' voting rights according to which the proposal is accepted and defines the seizeable assets or the essential services to be maintained. Third, the debt restructuring procedure is often accompanied by a fiscal adjustment process, which might involve third party intervention to put in place reforms and restore viability.

Insolvency frameworks have to balance different and conflicting objectives as the insolvency process unfolds (see Figure 7.6). These objectives are (Liu and Waibel, 2008[63]):

- Providing essential public services and setting in motion the adjustment of public finances (e.g. spending and taxation) and other fiscal or structural reforms;
- Deterring strategic default of the SNG;
- Facilitating debt restructuring (e.g. interest reduction, maturity extension, debt relief) and solving collective action problems;
- Protecting the contractual rights of the creditors and thus maintaining access of the SNG to the capital market;
- Limiting interference with the authority of democratically elected local officials and constitutional rights.

Subjects of the insolvency procedure

Subnational entities that can become subject of a subnational insolvency procedure may comprise subnational governments as well as subnational agencies such as public companies or public-private partnerships. In Hungary, South Africa and Switzerland, only local governments, municipalities or similar entities (e.g. parishes) are subject to these insolvency laws. In Colombia, parts of the decentralised service delivery sector that are not monitored by any sectoral superintendency (administrative authority)[7] are also covered by the law. The American rules define a municipality to be "a political sub-division or public agency or instrumentality of a State". This broad definition includes state-sponsored or controlled entities that raise revenues through taxes or user fees to provide public services (e.g. school districts, hospitals, sanitary districts, public improvement districts, bridge authorities) (United States Courts, 2017[64]; Jones Day, 2010[65]).

Court and higher-level government involvement

Three different kinds of insolvency frameworks can be distinguished – depending on the role of the courts, higher-level governments or other authorities in the procedure (Liu and Waibel, 2008[63]; 2010[66]):

- In **pure judiciary frameworks**, the court has wide-ranging decision-making authority in the whole insolvency process. For example in Hungary, the court decides whether a municipality is eligible for filing for insolvency, gives consent to the crisis budget and appoints a trustee who leads and supervises the bankruptcy and reorganisation process.
- In **administrative procedures**, higher-level governments determine the status of being bankrupt, carry out the debt restructuring procedure and take control of subnational finances. An administrative procedure is used in Colombia because the judicial system does not always function well. Bankruptcy procedures for SNGs are led by the Superintendency of Corporation in co-operation with the Ministry of Finance and Public Debt.
- In **hybrid insolvency systems**, both the court and the administration are involved in the debt restructuring process. For example, in South Africa and the United States the bankruptcy court approves the petition to file for bankruptcy and the debt distribution scheme, which sets out how debt will be restructured. The elaboration of the restructuring plan as well as fiscal adjustment is either left to the municipality itself (United States) or to an administrative authority (South Africa).

Under an administrative procedure, debt settlement and fiscal adjustment may be reached faster than under a judiciary procedure, especially in countries with an underdeveloped court system. The disadvantage of administrative systems compared with judiciary systems is that SNGs might expect the higher-level government to provide additional public funds and thus increase the risk of moral hazard. Moreover, they may be less immune to political pressures and discretionary decision making and tend to be more biased in favour of one of the parties involved. Hybrid frameworks might be superior because they

combine both systems. As the court has the final decision on the debt distribution scheme or debt adjustment plan, it can be assured that the outcome is fair and equitable for all parties, assuming an efficient legal system.

Initiating the insolvency procedure

Trigger and eligibility criteria

Various criteria can be applied, when deciding, whether debt restructuring proceedings should go ahead. The trigger which is used by any existing insolvency framework is the necessity of the municipal entity to be insolvent, but different definitions of insolvency exist. In the United States, municipal entities are insolvent when they are unable to pay their debt now and in the future. In Switzerland and South Africa, municipalities have to show that they are unable to fulfil their bond obligations. In general, these relatively open definitions of the insolvency status require a careful examination of the financial situation of the local entity. This may involve a multi-year analysis of available reserves, the ability to reduce spending and raise taxes, and legal opportunities to postpone debt payments (McConnell and Picker, 1993[29]). For this purpose, Swiss municipalities have to provide a detailed explanation of their financial situation when filing with the administrative authority. South Africa considers additional indicators that might reveal serious financial problems and persistent material breach of financial commitments. In contrast to these countries, Colombia and Hungary apply more specific indicators of insolvency. For example, Hungarian municipalities may file for insolvency when an invoice is not disputed or paid within 60 days of the due date.

Furthermore, the South African, Swiss and United States frameworks follow the *ultima ratio* principle. In Switzerland, a municipality can only apply for bankruptcy if all reasonable measures have been exploited and have failed to avoid bankruptcy. In South Africa, debt restructuring is the last option within a multi-step procedure that includes an early warning system and a mandatory fiscal intervention by the provincial authority. It requires that, in accordance to the financial recovery plan set up during provincial intervention, all assets not necessary for effective administration or basic service provision have been liquidated and all employees have been laid off, except those affordable in terms of projected revenues. In the US, the municipality must have shown pre-filing efforts to work out financial difficulties and come up with good faith solutions with the creditors according to the Chapter 9 rules. Furthermore, to apply for Chapter 9, the municipality must be explicitly authorised to be a debtor by state law. In 2012, only twelve states give full authorisation, twelve conditional authorisation (attaching further preconditions), three limited authorisation (applying only to a subset of municipalities) and twenty-three give no authorisation to file under Chapter 9 (Spiotto, 2015[67]).

The definition of the eligible criteria may be crucial for meeting creditors' claims, providing public services and preventing debtors' moral hazard. They should give a clear notion of the incidence of insolvency and eligibility for an insolvency procedure, so that creditors and local government can take appropriate actions sufficiently early to cope with their financial difficulties. Applying a simple indicator – as used in Hungary – may have the benefit of being transparent, but it may also have the disadvantage of being an imperfect proxy for the actual debt servicing capacity of the subnational government, which is influenced by financial, institutional, economic and political constraints (Weder di Mauro and Zettelmeyer, 2010[68]). It can also be easily misused for strategic default.

Eligibility criteria which involve a thorough assessment of the financial situation seem better for indicating the real need for an insolvency procedure. They should also signal to the SNG and the capital market that insolvencies are the remedy of last resort, and thus should demand efforts by the local government to solve the debt crisis – as stipulated in the South African, Swiss and American laws. This reduces the risk that a municipality files for premature insolvency (type one error). However, the triggering criteria must also ensure that the insolvency procedure is not initiated too late, e.g. when policy makers gamble for a

resurrection (type two error) (Andritzky et al., 2016[34]). A delay might harm service delivery to the citizens, undermine a fair settlement of creditors' claims and unnecessarily delay subnational fiscal recovery.

Right to initiate the insolvency procedure

Insolvency frameworks can be initiated by the debtor, the creditors, higher-level governments or other authorities. Filing can be voluntarily or compulsory. In most countries, the debtor files voluntarily with the bankruptcy court (United States, South Africa) or the relevant authority (Switzerland). In Hungary, the municipality is obliged to apply for insolvency with the county court when it fails to meet its obligations. The Hungarian framework also allows the creditor to petition the court. In the case of Puerto Rico, unlike Chapter 9, Title III of PROMESA designates the oversight board to file on behalf of the territory with the district court.

The argument for debtor's filing is that the debtor knows best the true financial situation and the severity of indebtedness. A voluntary rule would not interfere with sovereignty rights, but a mandatory rule or a creditors' right as regulated in Hungary would. Hence, many proposals for sovereign bankruptcy regimes permit the debtor to initiate the insolvency procedure (Berensman and Herzberg, 2009).

However, a mandatory filing – advocated by Bolton and Skeel (2004[59]) – can be justified by the argument that subnational decision makers which fear losing their reputation might be inclined to delay the procedure, as in sovereign debt restructuring. Applying an involuntary trigger may increase the chances of a more timely bankruptcy proceeding. It may motivate SNGs to avoid financial difficulties and renegotiate creditors' claims *ex post*. For these reasons, Feibelmann (2012[52]) proposes an involuntary bankruptcy procedure for American states that is initiated by the federal government: The federal government should force a state into bankruptcy if it is likely to need substantial support or threatens national financial and economic stability.

Granting creditors the right to initiate the insolvency procedures gives creditors more power, possibly reducing the costs of subnational borrowing. However, it also creates the risk of failure due to procedural delays due to conflicting interests among creditors. Bolton and Skeel (2004[59]) suggest that creditor initiated proceedings require a "critical mass" of creditors, perhaps at least 5%, to sign on to a petition for involuntary initiation in order to prevent a small group of creditors from initiating the procedure opportunistically.

Assessment of insolvency and conducting the debt restructuring process

The assessment of the SNG's eligibility as well as the management and supervision of the debt restructuring process are important parts of the insolvency procedure. Whatever institution (e.g. court, trustee, administrative authority, etc.) is involved in the process, it should have the necessary prerequisites of independence, impartiality and competence.

In all existing frameworks, assessment of insolvency is left to a third party such as the (bankruptcy) court (United States, Hungary, South Africa), the cantonal bankruptcy authority (Switzerland) or the Fiscal Affairs Department (Colombia). In Switzerland, a commission of experts may assist in assessing the financial situation of the municipality.

In Hungary, South Africa, Colombia and the United States, once the petition is accepted, the court or administrative authority appoints a trustee to lead and supervise the debt restructuring process. The bankruptcy court in the United States or the SOC in Colombia serves to enforce the insolvency rules and adjudicates disputes between the debtor and creditors. Apart from existing institutions, creditors and debtors may also set up an *ad hoc* arbitration commission that conducts the debt restructuring process and settles disputes. This may be particularly relevant in sovereign bankruptcy proceedings (Paulus, 2002[60]) where suitable, independent supra-national institutions are missing.

Stay on enforcement and cessation of payment

Filing for insolvency may trigger a stay on enforcement for the period of the debt restructuring. A stay implies that all legal proceedings by creditors are suspended and that the debtor's assets cannot be attached. In this way, the parties involved in debt restructuring get some breathing space to reorganise debt and to negotiate in good faith, without the distraction of lawsuits. The suspension of obligations prevents creditors from undertaking enforcement measures (e.g. rush to the courthouse or grab race) (Sturzenegger and Zettelmeyer, 2006[69]; Thomas, 2004[70]), especially when asset attachment is not restricted (Schwarcz, 2002[33]). As the stay ensures that no creditor receives payments from the debtor or is allowed to seize assets at the expense of the other creditors, it also contributes to an equitable treatment of the creditors and preserves the final value available to all creditors (Berensmann, 2003[71]).

Most existing insolvency frameworks as well as many proposals foresee a stay on enforcement. In the United States and Hungary, the stay is triggered automatically. In South Africa, municipalities can apply for a stay of all legal proceedings for a maximum of 90 days. In Switzerland, the cantonal bankruptcy authority can temporarily cease debt enforcement, if it does not deteriorate the financial position of the creditors. However, creditors may file for continuation. Apart from that, the activation of a stay may also require the affirmative vote of a (qualified) majority of creditors (IMF, 2002[55]).

The main advantages of the stay are that it facilitates debt restructuring and prevents opportunistic behaviour by single creditors. However, protecting the debtor from creditors' legal actions may encourage moral hazard. It may also interfere with creditors' rights. Thus, limiting the duration of the stay (like in South-Africa) and giving the creditors a veto right (as in Switzerland) appear reasonable. This may accelerate the restructuring procedure and balance the rights of the debtor and the creditors. Limiting the stay on enforcement to certain types of claims (e.g. non-secured claims) may also be less intrusive from the perspective of contractual rights than a deadlock. Payment to public employees (e.g. teachers, firefighters, police, etc.), suppliers and services could be continued so that public service provision is not impaired (Schwarcz, 2002[33]). In this regard, Bolton and Skeel (2004[59]) advocate a targeted stay applicable solely to asset seizures, so that ordinary litigations (which do not interfere with the restructuring process) can be continued.

Debt restructuring features

Proposal right and veto right

The assignment of both the proposal right and the veto right is decisive for the outcome of the debt negotiation. According to Tsebelis (2002[72]), the outcome is likely to be biased towards the party that has the power to present a proposal. Assigning the debtor the proposal right may give priority to maintaining public services. Granting proposal power to the creditors respects creditors' property rights but might induce collective action problems. In the United States, Chapter 9 gives the debtor the right to propose the debt adjustment plan, while under PROMESA the oversight board has this right. In Hungary, it is the task of the committee appointed by the debtor (and led by the trustee). The South African framework even grants the trustee the right to draft the debt settlement proposal.

To restore balance between the different interests of the debtor and the creditors, it seems reasonable to assign the veto power to a neutral third party. Most frameworks (e.g. United States, Hungary, South Africa) require the confirmation of the debt restructuring plan by the court. In Switzerland, the voting decision of the creditors (proposal right is not defined by the law) has to be approved by the bankruptcy authority. Alternatively, an *ad hoc* arbitration commission could also perform this task. In some proposals for sovereign debt restructuring a (neutral) *ad hoc* arbitration body or committee elected by the debtor and creditors shall finally rule on a debt restructuring solution (Raffer, 1990[57]; Paulus, 2002[60]). Anyhow, if an efficient judiciary exists, the restructuring proposal should be confirmed by the court rather than by an administrative body or an *ad hoc* arbitration committee. A confirmation by the court would increase the

binding effect of the proposal for all parties involved. It would also legitimise intervention into property rights especially when debt discharge is agreed and ensure that this is fair and equitable (Waldmeier, 2014[53]; Liu and Waibel, 2008[63]).

Voting rule

Insolvency frameworks may define the voting process and the voting rules to get the creditors' consent to the debt restructuring proposal. They may state a unanimity rule, a simple majority rule or a qualified majority rule. They may refer to all existing claims or differentiate between certain classes of claims.

In all countries, except South Africa, creditors vote on the debt restructuring proposal. In the United States, the adjustment plan needs to be accepted by half in number and two-thirds in amount of each class of claims that is impaired. Similar voting rules can be found in the Hungarian and Swiss frameworks or are favoured in the proposals for subnational and sovereign debt restructuring (Schwarcz, 2000[58]; 2011[31]). In Colombia, voting on the proposal is less transparent and clear. Different voting rights are assigned to the different classes of creditors e.g. pension fund claimants get an extra 25% voting weight added to the principal of their recognised claim. An agreement becomes binding when it is accepted by an absolute majority of the votes.

It is indispensable to define a clear, transparent and equitable voting process as it speeds up the completion of the restructuring process, reduces the uncertainty of the outcome of insolvency procedures, and respects the creditors' property rights. Using a simple majority rule in terms of the number of creditors accelerates finding a restructuring solution compared with a qualified majority or unanimity rule. However, it seems reasonable to complement the simple majority rule in terms of numbers of claims by a qualified majority rule in terms of volume. In this way, creditors holding the majority of claims cannot be overruled. Applying a majority rule to each class of voters may also serve to safeguard creditors' rights.

A majority rule may reduce the risk of the holdout problem compared to an unanimity rule, but it does not eliminate it – especially when a veto right to each class of creditors is provided. Chapter 9 includes a mechanism to tackle the holdout problem which is also favoured by Paulus (2002[60]) and Bolton and Skeel (2004[59]). It provides the court with the so called "cram-down" power: The court can confirm the plan under certain circumstances (e.g. if it contributes to a fair and equitable outcome), even when it is rejected by one class. Then, the adjustment plan becomes binding on a dissenting minority.

Priority of claims

Frameworks may differentiate between different types of claims and may define which type of claim may receive preferential treatment. Priority rules may reflect country-specific equity preferences such as protecting the labour force or outcomes of labour bargaining, granting social security benefits and/or maintaining public service levels. These objectives have to be weighed against other objectives such as preserving access to new borrowing, maintaining liquidity and protecting contractual rights. Furthermore, frameworks could either prescribe a detailed or a vague definition of priority of claims. A clear priority order may increase legal certainty for settling competing claims. It may reduce settlement disputes and accelerate the restructuring process, but it may also reduce the incentive to come *ex ante* to a debt solution with the creditors.

Irrespective of the priority order, frameworks should guarantee that creditors holding the same class of claims are treated equally. This rule is explicitly stipulated in the frameworks of Switzerland, Hungary and the United States. Yet, in the existing frameworks different priority rules can be found. Wages and pension contributions, tax and other government claims get preferential treatment in Hungary and Colombia and are even exempted from debt restructuring in Switzerland. In South Africa, priority is given to secured claims. In Colombia, secured creditors have the option to take the collateral or to include the claim in the restructuring process. Unsecured claims are mostly paid last.

Contrary to the Hungarian and Colombian law, the United States' Chapter 9 does not define a concrete payment order which provides some degree of flexibility to determine a priority structure. The treatment of secured and unsecured claims is given by the requirement of a "cram-down" that a plan is fair and equitable. Accordingly, holders of secured claims receive at least the value of the securitised property. Those with unsecured claims often lose out (McConnell and Picker, 1993[29]). They only receive "what they reasonably can expect under the circumstances" (Jones Day, 2010[65]).

Different approaches exist for classifying new and senior debt. Under Chapter 9, priority can be given to debtor-in-possession-financing, i.e. new financing obtained for the debtor's restructuring from the credit and capital market. Without this priority, due to the lacking creditworthiness of the debtor, creditors may not grant fresh capital, which is necessary for maintaining critical government functions. As a result, higher-level governments may be forced to step in as the lender of last resort. Furthermore, the debtor might be induced to play a Ponzi-type game, substituting old liabilities with new ones. However, interim financing which is exempted from debt restructuring or receives preferential treatment should be limited to the amount necessary for fulfilling basic government tasks and to reasonable trade debt needs.

There are several arguments for preferring senior debt to junior debt. Giving priority to senior debt promotes budget discipline. It accounts for the fact that later creditors were better informed about the fiscal situation of the SNG and were better able to price in the probability of default by demanding higher risk premia than earlier creditors (Blankart and Fasten, 2009[48]). Finally, it reduces the risk of debt illusion, i.e. that new debt reduces the asset value of former creditors (Fama and Miller, 1972[73]). Preference for senior debt is for example granted by the so-called absolute priority principle in private American bankruptcy proceedings which may also be applied to United States municipalities. Bolton and Skeel (2004[59]) propose a first-in-time rule according to which unsecured claims should be classified in terms of their emission dates. The older the claim, the higher is the priority.

Seizeable assets and essential services

Insolvency frameworks may stipulate *ex ante* which kind of assets can be sold and what level of service needs to be maintained. Defining the seizeable assets or essential services may affect municipal services, raise sovereignty concerns and influence financing which implies a trade-off. On the one hand, a municipality has to be left with as many assets as are necessary to fulfil its constitutional tasks. On the other hand, the more "insolvency mass" is available for the creditors, the lower are the *ex ante* costs of credit financing.

The seizeable assets or essential services can be defined either in detail or more vaguely. With a clear-cut definition or a catalogue of seizeable assets and essential services the outcome is more predictable. A clear definition leaves less room for manipulation than a fuzzy definition where assets may be shifted between different accounts or where non-essential assets may be declared essential. However, it may not be practical, as it reduces the possibilities to adjust to a changing environment.

Definitions of non-seizeable and seizeable assets can be found in the Swiss, South African and Hungarian regulations. In these rules, neither assets that are essential for public service provision nor tax revenue can be seized. A clear definition of essential services is only provided by the Hungarian framework, which lists 27 items.

Dismissal and sanctions

It may be useful to stipulate an early termination of the insolvency procedure or other sanctions in cases where the SNG or the creditors do not comply with the framework's rules. Sanctions enforce insolvency rulings and make the agreement binding for the parties involved.

All regulations except the Swiss law foresee an early dismissal of the insolvency procedure or other sanctions when a municipality does not adhere to the rules. In Hungary, sanctions may include fining the

mayor for delaying the initiation of the debt adjustment process or dissolving the city council for not finding an agreement within a certain time frame. Even criminal and civil prosecutions can take place (Jókay, 2013[40]). The South African framework provides sanctions (e.g. dissolution of the city council), when the municipality does not adhere to a fiscal recovery plan elaborated during state intervention. In the other frameworks, the debt restructuring plan is declared null and void if the debtor fails to comply with it. The debtor is then burdened with his original debt.

The threat of an early dismissal may facilitate the debt restructuring process. Specifying timeframes, as in Hungary, may push the SNG to find a timely debt solution. Sanctions on missing fiscal adjustment, like in South Africa, accelerate the process of budgetary and fiscal reforms and deter strategic default. However, sanctions or a dismissal may conflict with sovereignty or raise constitutional issues and make it more difficult to maintain public service levels.

Fiscal adjustment and consolidation features

Fiscal adjustment

Debt restructuring should be accompanied by fiscal adjustment. This may involve expenditure cuts, tax increases and/or the raising of new income sources. In addition, it may involve structural reforms (e.g. enhancing the efficiency of public service provision). As such, fiscal adjustment may serve to rectify fiscal mismanagement, overcome structural problems, and/or mitigate the negative effects stemming from an adverse exogenous shock. It also serves to deter debtors from running into insolvency. Furthermore, fiscal adjustment allows a better distribution of the burden of a debt crisis. It assures that both the creditors and the taxpayers share the burden of the debt restructuring. Nevertheless, the scope of fiscal adjustment is limited. Preserving basic municipal functions precludes deep expenditure cuts. An increase in tax rates may also erode the tax base if citizens and businesses leave the subnational entity (i.e. voting with their feet) (Blankart and Klaiber, 2006[12]).

The existing insolvency regimes contain requirements for some form of fiscal adjustment. Switzerland has included specific fiscal adjustment rules in the insolvency law. In South Africa and Colombia, debt restructuring rules are part of or are complemented by a fiscal adjustment framework. In South Africa, Switzerland and the United States, the approval of insolvency depends on pre-filing efforts of the municipality to adjust the budget and to restore financial health.

The American Chapter 9 framework gives the municipality in bankruptcy the power to assume and reject executory contracts (contracts that are yet to be performed) and unexpired leases. The municipality can suspend burdensome non-debt contractual obligations including collective bargaining agreements, and thus remove substantial budgetary costs stemming from employee payroll compensation and other employee benefits (United States Courts, 2017[64]; de Angelis and Tian, 2013[38]). The rejection of non-feasible contracts may help to facilitate financial recovery, but it may undermine necessary reforms and encourage strategic filing.

Fiscal intervention

Fiscal intervention may contribute to enforce fiscal adjustment. It can be exerted by the court and/or an administrative authority. Fiscal intervention by a (competent and independent) third party may accelerate the fiscal adjustment process and fiscal recovery of the subnational entity. As it deprives political decision makers of financial autonomy, it sanctions the political failure that led to the subnational bankruptcy. Fiscal intervention is even useful from a political economy perspective: third parties can take unpopular decisions more easily without fearing consequences from the electorate.

In South Africa and Switzerland, insolvency frameworks give the higher governmental authority extensive rights to supervise fiscal adjustments and to intervene in subnational policy making. According to the Swiss law, where the municipality is in severe fiscal distress, the bankruptcy authority can mandate a supervisory commission to make decisions on behalf of the municipality about budget restructuring, spending cuts, tax increases, the selling of assets and/or new income sources. In South Africa, a municipal government has to be subject to mandatory fiscal intervention before it can apply for debt restructuring. Then, an administrative authority elaborates a recovery plan to be implemented by the municipality, recommending changes to the budget and revenue raising measures of the municipality.

On the other hand, fiscal intervention by a third party may interfere with sovereignty. Hence, the United States' Chapter 9 guarantees that state sovereignty is recognised by the courts: day to day activities of the municipality are not subject to court approval. The control of the municipality is explicitly reserved to the states.

Conclusions for an effective design of insolvency frameworks

Objectives and corresponding elements

Given country-specificities and trade-offs, no one-size-fits-all optimal framework exists. Table 7.2 provides a detailed overview of the different features of insolvency regimes and how they relate to corresponding objectives. In order to maintain essential services and facilitate fiscal adjustment, the framework should provide for a wide definition of non-seizeable assets, sanctions in case of missing adjustments and fiscal intervention by the upper-level government. The two latter features may also serve to deter moral hazard – as well as triggering criteria which apply the "ultima ratio principle". Beneficial to facilitating debt adjustment are features which grant a temporary stay on enforcement, stipulate a cram-down rule and define a clear and detailed payment order. Creditors' rights are best protected when triggering criteria are defined restrictively, the veto right is assigned to a neutral third party and a wide range of assets can be seized. Ensuring that constitutional and sovereignty rights are respected calls for strict eligibility criteria as well as a limitation on asset attachment and policy intervention.

Drawing on these features, existing frameworks set different priorities. The Chapter 9 procedure gives more emphasis to facilitating debt adjustment than the frameworks of Hungary, South Africa or Switzerland. In particular, Chapter 9 places more focus on deterring the collective action problem and safeguarding constitutional rights. However, Chapter 9 puts less emphasis on frameworks for safeguarding public services and promoting fiscal adjustment.

Some general conclusions can be drawn from the existing insolvency regimes to develop a rudimentary model framework (Box 7.5). Unlike the country-specific proposals of Waldmaier (2014[53]), Schwarcz (2011[31]) and Skeel (2012[51]), the model proposed here abstracts from compatibility with specific constitutional law. The general features in Box 7.5 can be adapted to fit country-specificities. For example, unitary countries could give more emphasis to the role of administrative authorities (e.g. higher-level governments). Federal countries might follow a more judicial procedure by strengthening the role of the courts. For reasons of constitutionality and sovereignty, it might be necessary to omit or weaken some features that may undercut subnational autonomy.

It is possible that the move towards an insolvency framework may prompt concern among some stakeholders. In response, Box 7.6 proposes several approaches which may facilitate the implementation of insolvency frameworks. Integrating an opt-in or opt-out option or defining a minimalist framework to be further specified by subnational law may respect the sovereignty principle. A gradual development of insolvency frameworks, the definition of transition paths, the provision of central government guarantees, or the establishment of a debt redemption fund may increase acceptance of the framework. Nonetheless, measures that introduce moral hazard or add flexibility may limit the effectiveness of the framework.

Table 7.2. Overview of objectives and corresponding features of insolvency frameworks

	Essential public services and allowing fiscal adjustment	Deterring strategic default	Facilitating debt adjustment and deterring collective action problem	Protecting creditors' rights and maintain credit financing	Respecting constitutional rights
Type	**Administrative or hybrid framework**	**Judicial or hybrid framework**	**Administrative or hybrid framework**	**Judicial or hybrid framework**	**Hybrid framework**
Filing	Mandatory filing of debtor		Mandatory filing of debtor	Allowing creditors to file for municipal insolvency	Voluntary filing of debtor
Eligibility criteria	Less restrictive triggering criteria	**Restrictive triggering criteria applying the ultima ratio principle**		**Restrictive triggering criteria applying the ultima ratio principle**	**Restrictive triggering criteria applying the ultima ratio principle**
Stay	Granting a temporary stay and temporary cessation of payments		**Granting a temporary stay and temporary cessation of payments**	Limiting stay on enforcement to certain classes of claims	
Proposal right		Assigning proposal right to the creditors/ third party or assigning veto right to a neutral third party	Assigning veto right to a neutral third party	**Assigning proposal right to the creditors or assigning veto right to a neutral third party**	Assigning proposal right to the debtor
Voting rule			**Applying a simple majority rule or stipulating a cram-down-rule**	Applying at least a majority rule in each class	
Priority of claims	Priority to labour claims and government claims	Priority to creditors' claims	**Defining a clear and detailed order**	Priority to creditors' claims, priority to claims from interim financing	Priority to labour claims and governmental claims
Seizeable assets	**Restrictive range of seizeable assets**	**Wide range of seizeable assets**		**Wide range of seizeable assets**	**Restrictive range of seizeable assets**
Dismissal/ Sanctions	**Sanctions for missing fiscal adjustments**	Sanctions for missing fiscal adjustments	**Dismissal or sanction for deterring debt restructuring**	Dismissal or sanction for deterring debt restructuring and fiscal adjustment	
Fiscal intervention	**Wide-reaching governmental intervention**	**Wide-reaching governmental intervention**			**Limited governmental intervention**

Note: Cells in bold = most relevant for meeting the objective.

Box 7.5. A subnational model framework

A model subnational insolvency framework could contain the following features:

- *Filing:* SNGs may voluntarily commence the debt restructuring proceeding by filing with an administrative, bankruptcy or constitutional court or an administrative authority. The court or administrative authority approves the petition after having scrutinised the eligibility criteria.
- *Triggering:* Triggering criteria define the status of insolvency and implement the ultima-ratio principle: First, the SNG must be insolvent. Second, it must have taken all possible measures to prevent insolvency. The SNG is required to disclose all information about its fiscal and financial situation and pre-filing reform efforts.
- *Automatic stay:* A stay on assets is granted automatically. It does not impair the SNG's ability to pay its employees or to pay for essential services.
- *Proposal and veto right:* The SNG proposes a debt restructuring plan to the creditors to be further elaborated and negotiated in an iterative process, until consent is reached. With the court's final approval the plan becomes binding on all creditors (if applicable).
- *Voting rule:* The debt restructuring plan is approved by a simple majority of votes in terms of number of creditors and by a qualified majority in terms of claims in each class.
- *Seizeable assets:* Seizeable assets are defined according to the country's specific preferences.
- *Priority of claims:* The priority of claims is defined according to the country's specific preferences. Nevertheless, non-secured claims should be prioritised according to seniority. New financing should be exempted from debt restructuring and fully serviced.
- *Fiscal intervention:* While the incumbent government stays in office, the administrative authority controls subnational fiscal adjustment policy.
- *Sanctions:* In case the SNG deliberately delays the progress of debt restructuring and fiscal adjustment, the SNG is sanctioned (e.g. by early termination of the procedure, intervention by a higher level of government, dismissal or new elections)

Table 7.3 applies the results from Table 7.2 to the illustrate how the model framework meets all objectives, abstracting from country-specific considerations which may limit the applicability of certain features.

Table 7.3. Connecting features of the subnational model framework to objectives

	Public services, fiscal adjustment	Deterring strategic default	Facilitating debt adjustment	Protecting creditors rights	Respecting constitutional rights
Filing	●				●
Eligibility criteria		●		●	●
Stay	●		●	●	
Proposal right			●	(●)	●
Voting rule			●		
Priority of claims	depends on country-specific choices				
Seizeable assets	depends on country-specific choices				
Dismissal/Sanctions	●	●	●		
Fiscal intervention	●	●			

Note: ● fully applied, (●) partly applied – depends on the assignment of veto right to the court.

Box 7.6. Implementing insolvency frameworks

The implementation of insolvency frameworks may be opposed for several reasons, including limitations on sovereignty, lack of needed structural reform, and lack of transitional support. However, certain policy measures can mitigate these issues, as elaborated below:

Issues in implementation:

- *Incompatibility with constitutional and sovereignty rights*: Insolvency frameworks may be incompatible with constitutional or sovereignty rights, particularly in federal countries.
- *Lack of institutional prerequisites and structural reforms*: The implementation of insolvency regimes often needs to be preceded by major structural and institutional reforms in order to enhance the capacity of SNGs to manage their own fiscal policy. Without fixing institutional and structural deficiencies, insolvency frameworks only serve to curb the symptoms of political and institutional failures in the short run (Levitin, 2012[74]).
- *Lack of a transitional regime*: Without transition measures in place which allow the stakeholders to gradually adapt to the new circumstances, the introduction (or even announcement) of an insolvency regime may lead to disruptive reactions by the agents. For example, Halstead *et al*. (2004[75]) has shown that the unprecedented announcement of the bankruptcy of Orange County in December 1994 had wide-ranging spillover effects on municipal bonds, municipal bond funds and bank stocks. Similar contagion effects may even arise with the introduction of insolvency regimes in a situation of high subnational indebtedness when there is no provision for further transitional arrangements or rules.
- *Political economy issues*: SNGs may oppose an insolvency framework due to uncertainty about the consequences of its implementation, or where applicable, concerns about the transition to a no-bailout system. Creditors may also lobby strongly to maintain the status quo, as they profit from good financing conditions of SNGs when guaranteed by the solvency of upper-level governments. The insolvency framework may mean that they have to give up the simple investment option with secure returns and instead face the risk that assets might become devalued or written-off.

Possible policy solutions:

- *Voluntary implementation:* Voluntary implementation could allow the SNGs to decide *ex ante* whether or not to adhere to the insolvency rules stipulated in the framework in case of financial crisis– similar to the state's authorisation for filing for Chapter 9 (the "opt-in" option). Another approach may be to integrate an "opt-out" option into the framework – as considered by Bolton and Skeel (2004[59]) for sovereign states – that allows the SNG to exit from the framework. In both cases, SNGs not covered by the insolvency framework might set up their own rules or, alternatively, end up with an *ad hoc* debt restructuring in case of insolvency. It may also be possible to make opting into or out of the framework conditional on following budget rules in order to ensure that all SNGs face similar incentives.
- *Flexible implementation:* A flexible approach could make the implementation of some insolvency rules mandatory for SNGs based on common standards and regulations. For example, a common minimalist framework could be defined, laying down the general rules and principles of the insolvency procedure, similar to the approaches of Schwarcz (2002[33]; 2011[31]). The minimalist framework is then completed by subnational law defining the specific features of the debt restructuring process.
- *Gradual implementation:* As a starting point, rules may first be stipulated that allow debt enforcement against some assets of an SNG. At a later stage, general procedural rules and

principles are developed in a minimalist framework. Complex material questions (e.g. priority of claims, essential services, seizure of assets, sanctions, fiscal intervention) are gradually implemented later.

- *Lagged implementation:* First proposed by Fuest et al. (2016[35]) for the euro area, the authors suggest to define today (taking advantage of the reform window) an insolvency procedure, which becomes effective at a certain date in the future. In addition, an explicit transition path is stipulated, including further measures to allow for phasing-in of the new rules.
- *Central government guarantees or conditional transfers*: Central government may provide guarantees or conditional transfers during a transitory period. This approach was followed by Colombia. In the first six months after the implementation of Law 550, the central government guaranteed 40% of the restructured debt, if the SNG met certain conditions (e.g. approval of fiscal programme, agreement on restructuring plan). A 40% guarantee was also offered to entities for their adjustment lending from commercial banks or international development banks. An SNG could even receive a 100% guarantee of new loans to finance adjustments for achieving the spending limits set out in the law (del Villar et al., 2013[41]).
- *Establishing a debt redemption fund:* Konrad (2008[76]) suggests establishing a common debt redemption fund which takes over and pools existing subnational debt, guaranteed by central government. SNGs are obliged to redeem their share of transferred debt (including interest payments) over a certain period of time and are only liable for creditors' claims arising from new borrowing. Only these claims may become subject to the insolvency procedure in case of bankruptcy. A historic example is the so-called *Erblastentilgungsfonds* established in 1995 in Germany for incorporating the debt of the former GDR (Wissenschaftliche Dienste des Deutschen Bundestages, 2013[77]). Another option is to establish voluntary liability agreements between SNGs, which may be similar to the deposit protection fund established in the banking system (Konrad, 2008[76]). An SNG may voluntarily transfer debt to a commonly agreed fund under the joint liability of the participants. The SNG may have to commit to fulfilling certain regulatory requirements (e.g. meeting financial key figures, following consolidation paths). In case of non-compliance with these rules, the SNG would be excluded.

References

Ahmad, E., M. Bordignon and B. Giorgio (2004), *Multi-level Finance and the Euro Crisis: Causes and Effects*, Cheltenham-Northampton, Edward Elgar Publishing. [11]

Alesina, A. and T. Bayoumi (1995), "The Costs and Benefits of Fiscal Rules: Evidence from U.S. States"*, NBER Working Paper Series*, No. 5614. [5]

Andritzky, J. et al. (2016), *A mechanism to regulate sovereign debt restructuring in the Euro area*, Working Paper 04/2016, German Council of Economic Experts. [34]

Bartolini, D. et al. (2015), "Fiscal Decentralization in Times of Financial Crises"*, GEN Working Paper*, No. 1506. [21]

Bayoumi, T., M. Goldstein and G. Woglom (1995), "Do Credit Markets Discipline Sovereign Borrowers? Evidence from U.S. States", *Journal of Money Credit and Banking*, Vol. 27/4, pp. 1046-1059. [24]

Beck, R. et al. (2016), *Determinants of Sub-sovereign Bond Yield Spreads: the Role of Fiscal Fundamentals and Federal Bailout Expectations*. [27]

Berensmann, K. (2003), "Involving Private Creditors in the Prevention and Resolution of International Debt Drises"*, DIE Studies*, No. 8. [71]

Berensmann, K. and A. Herzberg (2009), "Sovereign Insolvency Procedures – Comparative Look at Selected Proposals", *Journal of Economic Surveys*, Vol. 23/5, pp. 856-881. [80]

Blankart, C. and E. Fasten (2009), "Wer soll für die Schulden im Bundesstaat haften? Eine vernachlässigte Frage der Föderalismusreform II", *Perspektiven der Wirtschaftspolitik*, Vol. 10/1, pp. 39–59. [48]

Blankart, C. and A. Klaiber (2006), "Subnational Government Organisation and Public Debt Crises", *Economic Affairs*, Vol. 26/3, pp. 48-54. [12]

Blöchliger, H. and J. Kantorowicz (2015), "Fiscal constitutions: An empirical assessment"*, OECD Economics Department Working Papers*, No. 1248, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jrxjctrxp8r-en. [22]

Blöchliger, H. and J. Kim (eds.) (2016), *Fiscal Federalism 2016: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264254053-en. [2]

Bolton, P. and D. Skeel (2004), "Inside the Black Box: How Should a Sovereign Bankruptcy Framework Be Structured", *Emory Law Journal*, Vol. 53, pp. 763–822. [59]

Bordignon, M. (2000), "Problems of Soft Budget Constraints in Intergovernmental Relationships: The Case of Italy"*, Research Network Working Paper*, Inter-American Development Bank. [13]

Brown, K., T. Motsoane and L. Liu (2013), "South Africa: Leveraging Private Financing for Infrastructure", in Canuto, O. and L. Liu (eds.), *Until Debt Do Us Part: Subnational Debt, Insolvency, and Markets*, The World Bank. [42]

Capeci, J. (1994), "Local Fiscal Policies, Default Risk, and Municipal Borrowing Costs", *Journal of Public Economics*, Vol. 53, pp. 73-89. [23]

Conti-Brown, P. (2012), "Introduction: The Perennial Crisis for the American States", in Conti-Brown, P. and D. Skeel (eds.), *When States Go Broke. The Origins, Context and Solutions for the American States in Fiscal Crisis*, Cambridge. [30]

de Angelis, M. and X. Tian (2013), "United States: Chapter 9 Municipal Bankruptcy—Utilization, Avoidance, and Impact", in Canuto, O. and L. Liu (eds.), *Until Debt Do Us Part: Subnational Debt, Insolvency, and Markets*, World Bank, https://doi.org/10.1596/9780821397664_CH08. [38]

del Villar, A. et al. (2013), "Colombia: Subnational Insolvency Framework", in *Until Debt Do Us Part*, World Bank, http://dx.doi.org/10.1596/9780821397664_ch05. [41]

Fama, E. and M. Miller (1972), *The Theory of Finance*, Holt, Rinehart and Winston, New York. [73]

Fatás, A. and I. Mihov (2006), "The Macroeconomic Effects of Fiscal Rules in the U.S. States", *Journal of Public Economics*, Vol. 90, pp. 101-117. [6]

Feibelmann, A. (2012), "Involuntary Bankruptcy for American States", *Duke Journal of Constitutional Law & Public Policy*, Vol. 7/1, pp. 81-115. [52]

Feld, L. et al. (2013), "Sovereign bond market reactions to no-bailout clauses and fiscal rules – The Swiss experience", *ZEW Discussion Paper*, No. 13-034. [45]

Fernandes, A. and P. Santana (2018), "Reforms of Fiscal Relations in Brazil: Main issues, challenges and reforms", *Background Paper to the 14th Annual Meeting of the Network on Fiscal Relations*, http://www.oecd.org/tax/federalism/reforms-of-fiscal-relations-in-brazil.pdf. [78]

Fornasari, F., S. Webb and H. Zou (2000), "The Macroeconomic Impact of Decentralized Spending Deficits: International Evidence", *Annals of Economics and Finance*, Vol. 9, pp. 403-433. [7]

Fuest, C., F. Heinemann and C. Schröder (2016), "A Viable Insolvency Procedure for Sovereigns in the Euro Area", *Journal of Common Market Studies*, Vol. 54/2, pp. 301–317. [35]

Geissler, R. (2015), "Detroit. Hintergründe eines historischen Bankrotts", *Analysen und Konzepte aus dem Programmem "Lebenswerte Kommune"*, Ausgabe 2, BertelsmannStiftung. [49]

Gianviti, F. et al. (2011), "A European Mechanism for Sovereign Debt Restructuring: A Proposal", *Bruegel Blueprint Series*, No. 10. [62]

Halstead, J., S. Hegde and L. Schmid Klein (2004), "Orange County Bankruptcy: Financial Contagion in the Municipal Bond and Bank Equity Markets", *The Financial Review*, Vol. 39/2, pp. 293–315. [75]

Herold, K. (2018), "Insolvency Frameworks for Sub-national Governments", *OECD Working Papers on Fiscal Federalism*, No. 23, OECD Publishing, Paris, https://dx.doi.org/10.1787/f9874122-en. [1]

IMF (2019), "Brazil: Technical Assistance Report-Strengthening the Framework for Subnational Borrowing", *Technical Report*, http://www.imf.org/en/Publications/CR/Issues/2019/09/19/Brazil-Technical-Assistance-Report-Strengthening-the-Framework-for-Subnational-Borrowing-48693. [79]

IMF (2014), *Strengthening the Contractual Framework to Address Collective Action Problems in Sovereign Debt Restructuring*, IMF Staff Report for the Executive Board's Consideration, IMF, Washington, D.C. [32]

IMF (2003), "Proposed Features of a Sovereign Debt Restructuring Mechanism", Paper prepared by the Legal and Policy Development and Review Departments in consultation with the International Capital Markets and Research Departments, IMF, Washington, D.C.. [56]

IMF (2002), "The Design of the Sovereign Debt Restructuring Mechanism – Further Considerations", Paper prepared by the Legal and Policy Development and Review Departments in consultation with the International Capital Markets and Research Departments, IMFWashington, DC.. [55]

Irwin, T. and D. Moretti (2020), "Can subnational accounting give an early warning of fiscal risks?", *OECD Journal on Budgeting*, https://dx.doi.org/10.1787/be73a937-en. [81]

Jenkner, E. and Z. Lu (2014), "Subnational Credit Risk and Sovereign Bailouts – Who Pays the Premium?", *IMF Working Paper*, No. WP/14/20, IMF, Washington, D.C. [28]

Jin, J. and H. Zou (2002), "How Does Fiscal Decentralization Affect Aggregate, National, and Subnational Government Size?", *Journal of Urban Economics*, Vol. 52/2, pp. 270–293. [8]

Jochimsen, B. (2007), "Haftungsbegrenzungen im internationalen Vergleich", in Jochimsen, B. and K. Konrad (eds.), *Der Föderalstaat nach dem Berlin-Urteil*, Lang, Peter Frankfurt. [44]

Jókay, C. (2013), "Hungary: Subnational Insolvency Framework", in Canuto, O. and L. Liu (eds.), *Until Debt Do Us Part: Subnational Debt, Insolvency, and Markets*, World Bank. [40]

Jones Day (2010), "An Overview of Chapter 9 of the Bankruptcy Code: Municipal Debt Adjustments", *Jones Day White Paper*. [65]

Jorgen, N. and M. Pedersen (2002), "Local Government and Debt Financing in Denmark", in Dafflon, B. (ed.), *Local Public Finance in Europe: Balancing the Budget and Controlling Debt*, Edward Elgar Publishing, Cheltenham - Northampton. [9]

Konrad, K. (2008), "Verschuldungsautonomie und Schuldenselbstverantwortung", *Kritische Vierteljahresschrift für Gesetzgebung und Rechtswissenschaft*, Vol. 91/2, pp. 157-170. [76]

Krueger, A. (2003), "Sovereign Debt Restructuring: Messy or Messier?", *American Economic Review*, Vol. 93/2, pp. 70-74. [36]

Krueger, A. (2001), "International Financial Architecture for 2002: A New Approach to Sovereign Debt Restructuring", *Speech given at the National Economists' Club Annual Members' Dinner, American Enterprise Institute*, IMF, Washington, D.C. [54]

Letelier, L. (2011), "Theory and Evidence of Municipal Borrowing in Chile", *Public Choice*, Vol. 146, pp. 395-411. [10]

Levitin, A. (2012), "Fiscal Federalism and the Limits of Bankruptcy", in Conti-Brown, P. and D. Skeel (eds.), *When States Go Broke. The Origins, Context and Solutions for the American States in Fiscal Crisis*, Cambridge. [74]

Liu, L. and M. Waibel (2010), "Managing Subnational Credit and Default Risks", *Policy Research Working Paper*, No. 5362, World Bank. [66]

Liu, L. and M. Waibel (2008), "Subnational Insolvency: Cross-Country Experiences and Lessons", *Policy Research Working Paper*, No. 4496, World Bank. [63]

McConnell, M. and R. Picker (1993), "When Cities Go Broke: A Conceptual Introduction to Municipal Bankruptcy", *University of Chicago Law Review*, Vol. 60/2, pp. 425-495. [29]

Nicolini, J. et al. (2002), "Decentralization, Fiscal Discipline in Sub-National Governments and the Bailout Problem: The Case of Argentina", *Inter-American Development Bank Research Networking Paper R-467*. [15]

Nunner-Krautgasser, B. (2013), "Insolvenzverfahren für Staaten und Gemeinden – die Grundsatzfragen", *Österreichische Juristenzeitung* , No 4, pp. 155-164. [37]

Paulus, C. (2009), "Rechtliche Handhaben zur Bewältigung der Überschuldung von Staaten", *Recht der internationalen Wirtschaft* , 2009 (1–2), pp. 11–17. [61]

Paulus, C. (2002), "Some Thoughts on an Insolvency Procedure for Countries", *American Journal of Comparative Law*, Vol. 50/3, pp. 531–553. [60]

Poterba, J. (1994), "State Responses to Fiscal Crises: The Effects of Budgetary Institutions and Politics", *Journal of Political Economy*, Vol. 102/4, pp. 799-821. [4]

Raffer, K. (1990), "Applying Chapter 9 Insolvency to International Debt: An Economically Efficient Solution with a Human Face", *World Development*, Vol. 18/2, pp. 301–311. [57]

Rodden, J. (2005), *And the Last Shall Be First: Federalism and Soft Budget Constraints in Germany*, Massachusetts Institute of Technology, Mimeo. [18]

Rodden, J. (2002), "The Dilemma of Fiscal Federalism: Grants and Fiscal Performance around the World", *American Journal of Political Science*, Vol. 46/3, pp. 670–687. [19]

Rodden, J., G. Eskeland and J. Litvack (eds.) (2003), "Argentina: Hardening the Provincial Budget Constraint", *Fiscal Decentralization and the Challenge of Hard Budget Constraints*, The MIT Press, Cambridge, Massachusetts. [14]

Rodden, J., G. Eskeland and J. Litvack (eds.) (2003), "Soft Budget Constraints and German Federalism", *Fiscal Decentralization and the Challenge of Hard Budget Constraint*, The MIT Press, Cambridge, Massachusetts. [17]

Schaltegger, C. and M. Winistörfer (2013), "Insolvenzordnung für Staaten: Lehren aus der Schweiz?", *Die Volkswirtschaft*, Vol. 7/8, pp. 43-46. [39]

Schuknecht, L., J. von Hagen and G. Wolswijk (2009), "Government Risk Premiums in the Bond Market: EMU and Canada", *European Journal of Political Economy*, Vol. 25/3, pp. 371-384. [25]

Schwarcz, S. (2011), "A Minimalist Approach to State Bankruptcy", *UCLA Law Review*, Vol. 59, pp. 322-353. [31]

Schwarcz, S. (2002), "Global Decentralization and the Subnational Debt Problem", *Duke Law Journal*, Vol. 51/4, pp. 1179-1250. [33]

Schwarcz, S. (2000), "Sovereign Debt Restructuring: a Bankruptcy Reorganisation Approach", *Cornell Law Review*, Vol. 85, pp. 956–1033. [58]

Seitz, H. (2000), "Fiscal Policy, Deficits and Politics of Subnational Governments: The Case of the German Länder", *Public Choice*, Vol. 102, pp. 183-218. [16]

Singh, R. and A. Plekhanov (2005), "How Should Subnational Government Borrowing Be Regulated? Some Cross-country Empirical Evidence", *IMF Working Paper 05/54*. [20]

Skeel, D. (2012), "States of Bankruptcy", *University Chicago Law Review*, Vol. 79, pp. 677- 735. [51]

Sola, S. and G. Palomba (2015), "Subnational Governments' Risk Premia: Does Fiscal Performance Matter?", *IMF Working Papers 15/117*, IMF, Washington. [26]

Spiotto, J. (2015), "Chapter 9: The Last Resort for Financially Distressed Municipalities", in *The Handbook of Municipal Bonds*, John Wiley & Sons, Inc., Hoboken, NJ, USA, http://dx.doi.org/10.1002/9781119198093.ch9. [67]

Sturzenegger, F. and J. Zettelmeyer (eds.) (2006), "Legal Issues in Sovereign Debt Restructuring", *Sturzenegger, F. and J. Zettelmeyer, Debt Defaults and Lessons from a Decade of Crises*, The MIT Press, Cambridge. [69]

Tagesanzeiger (2014), "Wiederauferstehung einer Schweizer Pleitegemeinde", *Tagesanzeiger*, http://www.tagesanzeiger.ch. [47]

Teevs, C. (2013), "Das Schuldendorf Schweiz", *Spiegel-online*, http://www.spiegel.de. [46]

Thomas, J. (2004), "Bankruptcy Proceeding for Sovereign State Insolvency", *World Economy*, Vol. 27, pp. 265-279. [70]

Tsebelis, G. (2002), *Veto Players: How Political Institutions Work*, Princeton University Press. [72]

Uebersax, P. (2005), "Erfahrungen und Lehren aus dem Fall Leukerbad", *Zeitschrift für Schweizerisches Recht*, Vol. 124/42. [43]

United States Courts (2017), "Chapter 9 – Bankruptcy Basics", http://www.uscourts.gov. [64]

Von Hagen, J. (1991), "A Note on the Empirical Effectiveness of Formal Fiscal Restraints", *Journal of Public Economics*, Vol. 44, pp. 199-210. [3]

Waldmeier, D. (2014), "Gedanken zu einer Insolvenzordnung", *Schriftenreihe Finanzwissenschaft und Finanzrecht*, 110, 1. Auflage, Haupt Verlag. [53]

Weder di Mauro, B. and J. Zettelmeyer (2010), "A European Debt Restructuring Mechanism as a Tool for Crisis Prevention". [68]

Williams Walsh, M. (2017), "Puerto Rico Declares a Form of Bankruptcy", *The New York Times*. [50]

Wissenschaftliche Dienste des Deutschen Bundestages (2013), "Altschuldentilgungsfonds", Ausarbeitung WD 4 – 3000 – 113/13, Deutscher Bundestag. [77]

Notes

[1] One recent exception being Brazil's 2017 Fiscal Recovery Regime (Regime de Recuperação Fiscal), which provides breathing room for heavily indebted states with liquidity problems through a grace period on the debt administered by the central government, and demands fiscal adjustment measures to bring them back to a fiscal sustainable path (Fernandes and Santana, 2018[78]; IMF, 2019[79]).

[2] Based on the OECD Fiscal Decentralisation database, http://oe.cd/FDdb. OECD-averages are unweighted averages. The average is computed using 2019 data for all countries available. The following countries reported data on SNG revenue shares: Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. The following countries reported data on SNG spending shares: Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States.

[3] Selected countries include Belgium, Denmark, Germany, Korea, Netherlands, Norway, Spain, Switzerland, and Turkey. They responded to a survey on subnational debt resolution of the OECD Fiscal Network.

[4] In Germany, state laws prohibit insolvency proceedings against municipalities but allow limited debt enforcement against some municipal assets.

[5] IMF's World Economic Outlook database: USD 99 468 billion for GDP and 3 470 million for population.

[6] A comparison of these sovereign insolvency approaches is provided by Berensmann and Herzberg (2009[80]).

[7] The institutions that are covered by laws and decrees other than Law 550 are private and public health providers, organisations that manage funds from the General System of Social Security for Health, and providers of public services in water, sewerage, electricity, fuel gas, basic public telephone distribution and mobile in rural areas. In insolvency cases of such entities, the concerned (sectoral) superintendency takes possession of the entity to ensure that the services continue to be provided.

8 Funding and financing of local government public investment

The bulk of government investment is done at the local level in OECD countries, representing on average 41% of total public investment. Most studies on subnational government debt focus on the regional or state level, and very few studies analyse public investment specifically by local governments. This chapter aims at filling this gap, presenting a framework to analyse the key factors, which affect the capacity of local governments to fund and finance public investment, and illustrates the framework with five countries: Denmark, Finland, Ireland, Netherlands and New Zealand.

Introduction

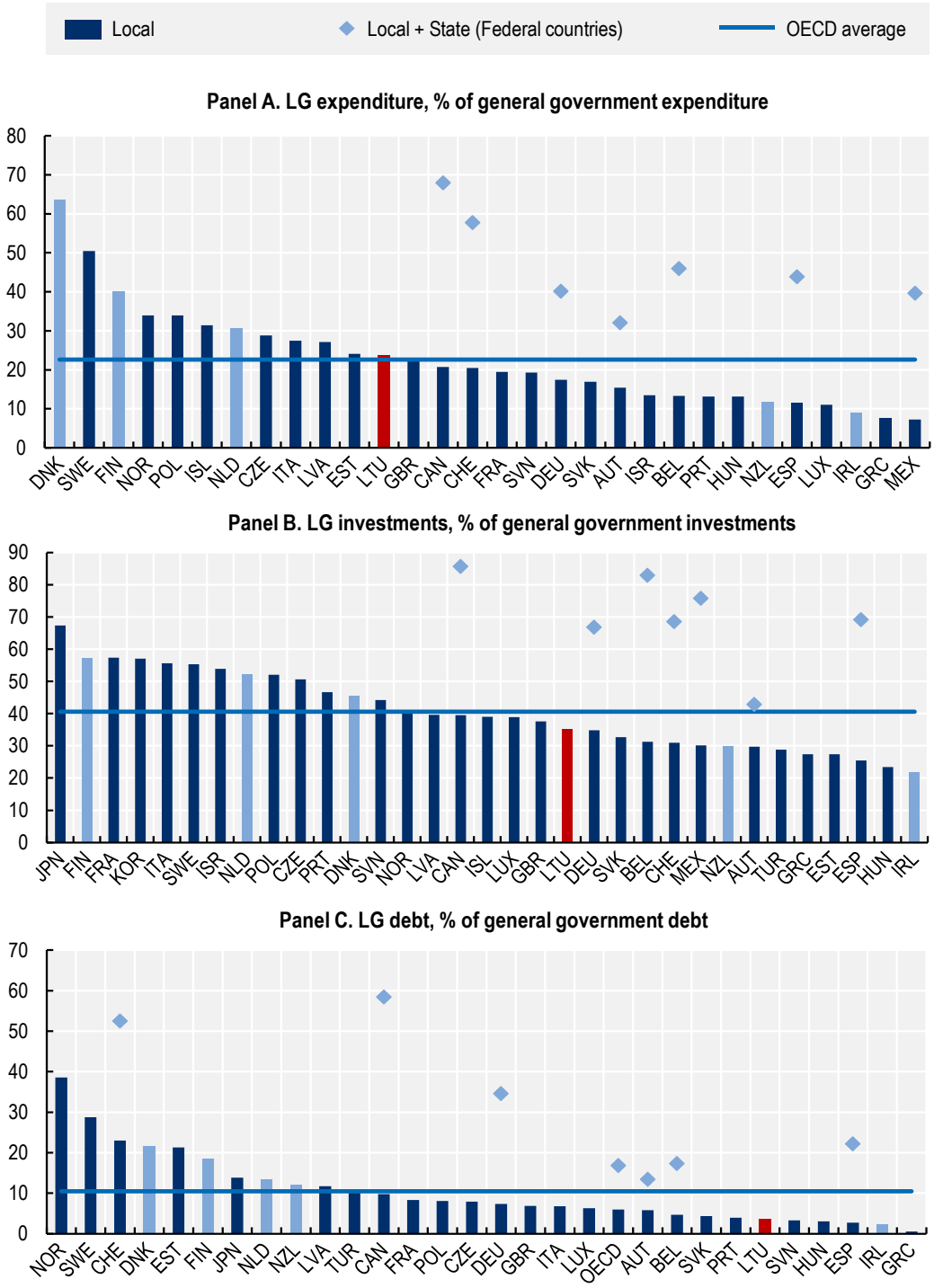
Local governments (LGs) represent on average about 23% of general government expenditure, 41% of general government public investments and only 10% of general government debt in the OECD (Figure 8.1). While most studies analyse subnational governments (SNGs) in general (i.e. both regional governments[1] and LGs), few focus on the specificities of LGs. Yet, LGs play an essential role in the provision of public services and goods to citizens, but often have less revenue and expenditure autonomy than RGs[2] and are often more constrained by fiscal rules (FRs).[3] In particular, the funding and financing frameworks for municipal public investments often constrain their capacities to carry out public investments which could provide a positive economic, social or environmental benefits and increase the welfare of their citizens.

This chapter aims at filling this gap, presenting a framework to analyse the key factors which affect the capacity of LGs to fund and finance public investment. The framework presented here is aligned with the OECD (2014[1]) Council Recommendation on Effective Public Investment across Levels of Government.

This chapter presents the analytical framework developed in a European Commission project to analyse countries' municipal investment funding and financing frameworks (Vammalle and Bambalaite, 2021[2]).[4] It highlights the different elements which affect municipal investment funding and financing capacity, and how they work together successfully. The overall objective of a municipal investment funding and financing framework is to allow municipalities to carry out efficient public investment while ensuring municipal and national fiscal sustainability.

The second section describes the funding and financing sources and the multi-level governance drivers affecting the capacity of local governments to finance public investment (Box 8.1). The third section outlines how these different elements need to work together in a coherent way to ensure both efficiency and sustainability of the municipal investment-financing framework. It identifies four types[5] of local fiscal and financial systems to ensure fiscal sustainability: market based, co-operative approach, rules-based, and direct control based.

Figure 8.1. Key OECD indicators of the relative weight of LGs in general government



Note: OECD refers to unweighted averages; Panel A: data unavailable for Australia, Chile, Japan, Korea, Turkey and United States (USA); Panel B: Gross capital formation is used as a proxy for investment (GP5P), data unavailable for Australia, Chile, USA, data for New Zealand refers to 2017; Panel C: data unavailable for Israel, Australia, Chile, Iceland, Korea, Mexico, USA. In Norway, LG debt is comparatively high, partially due to the CG deficit being covered by transfers from the Government Pension Fund Global and not by borrowing.
Source: Panel A: OECD Fiscal Decentralisation Database; Panel B: Calculations based on OECD (2019[3]); Panel C: OECD (2019[4]).

StatLink https://stat.link/xnaf0t

The funding and financing sources for local public investment and their determinants

Following the 2008-09 Global Financial Crisis and the trend towards tighter fiscal rules, in particular for sub-national governments (SNGs), local public investment declined in the European Union, from 1.6% of GDP in 2009 to just above 1% of GDP in 2017 (EUR 171 billion) in the EU-28 countries.

Box 8.1. Funding vs. financing public investment

Not all languages have a distinction between the terms “funding” and “financing”, so it is important to clarify the concepts behind these two terms, and explain why they are different in English.

Financing refers to the money needed to meet the up-front payments for public investment. Financing sources typically consist of borrowing (from commercial banks, the central government or other financial institutions), PPPs or institutional investors.

Funding refers to how the investment is ultimately paid for (loans repayments, PPP payments or investors returns). Funding typically comes from taxes, intergovernmental grants, fees, tariffs other mechanisms such as capturing land value, commercial activities, etc.

The two elements are interlinked and both are needed: indeed, if SNGs are in theory allowed to borrow (financing), but do not have sufficient capacity to increase their future revenues (funding) in order to repay the debt, they will, in practice, not be able to borrow.

The largest sources of funding and financing for LG public investment in the EU are (Dexia, 2012[5]):

- Self-financing: own current revenues, or reserves accumulated through past budget surpluses.
- Capital transfers: either from CG or from supra-national institutions (such as the EU).
- Private stakeholders: through off-budget schemes such as public private partnerships, which have grown in importance in many countries over the past decade.
- Debt: borrowing on the markets, from public institutions, or CG.

The share of each funding source varies across countries and over the years, with debt-financed funding making up only a relatively small part of total local public investment.

The drivers shaping the availability of funding and financing for local public investment can be divided into six groups (Figure 8.2): the funding framework, fiscal discipline mechanisms, financial instruments, financial institutions, the public financial management system and multi-level governance.

Figure 8.2. Factors affecting the capacity of LGs to finance public investment

Note: CG – Central Government, LGs – Local Governments, LGFAs – Local Government Financing Agencies, MLG – Multi-Level Governance, PFM – Public Financial Management, PI – Public Investment, PPPs – Public Private Partnerships.
Source: Vammalle and Bambalaite (2021[2]).

The funding framework

The funding framework refers to how the investment is ultimately paid for (Table 8.1). The capacity to fund public investment depends on the revenue mix, the expenditure autonomy and the donor funding.

Revenue mix and expenditure autonomy

The revenue mix refers to the share of own revenues (mainly taxes and fees) and transfers (earmarked grants and general purpose grants) in the revenues of LGs. The revenue mix determines the capacity of LGs to increase their own revenues (by raising their tax rates for example). Revenue autonomy affects LG capacity to carry out public investment, either by increasing revenues, or by borrowing (as it determines the capacity to repay loans, thus the risk and the cost of borrowing).

The expenditure autonomy, on the other hand, allows LGs to reallocate funds to higher priority areas, in particular public investment. Expenditure autonomy encourages efficiency gains as the savings can be used to fund other expenditure, in particular investment projects.

For example, in the Dutch revenue mix, SNGs substantially rely on CG transfers which represent over 74% of total SNG revenues (OECD, 2019[4]). The grant system is rather complex, and municipalities and provinces receive both general purpose grants (47% of total revenue) and earmarked grants (around 12% of total revenue), which are subject to checks by the Ministry of Interior (VNG, 2018[6]). Local tax-raising capacity in the Netherlands is relatively weak and represents around 17% of total LG income and 2.7% of total tax revenue (OECD, 2019[4]). Property taxation constitutes the largest share of local tax revenue. Dutch LGs can also collect administrative charges and fees, but these can only cover the costs of providing the associated services. On the expenditure side, in 2004, the Dutch principle of subsidiarity "local if possible, central if necessary" was anchored in the Inter-Governmental Code. This code is meant as an informal agreement between the CG and SNGs to organise and streamline inter-governmental relations (VNG, 2018[6]). In the last decades, there has been a tendency to transfer services to the lower levels of government (e.g. social services since 2015). However, these changes are sometimes not accompanied by sufficient funding, thus negatively affect reserves of municipalities (Geißler, Hammerschmid and Raffer, 2018[7]).

At the opposite of the Netherlands, New Zealand LGs have high revenue and spending autonomy, within a limited scope. LGs in New Zealand are largely funded by their own communities. Property tax (called “rates” in New Zealand) represents about half of LG revenues (New Zealand Productivity Commission, 2019[8]). Other sources of revenues include grants from the CG (about 14% of LG revenues), sales and user charges (about 25% of LG revenues), development contributions (about 4% of LG revenues), or interests and dividends from LG owned enterprises (such as ports, airports, etc.) (about 8% of LG revenues). Furthermore, reliance on services fees are quite strong and there are plans to further increase them. This is coherent with New Zealand’s focus on the “benefit principle”, which states that “those who benefit from, or cause the need for, a service should pay its costs”. However, borrowing is justified to finance public investment, as it enables the cost of assets to be matched with their benefits over their life. This promotes intergenerational equity, since those who benefit from the infrastructure contribute to its cost (New Zealand Productivity Commission, 2019[8]). On the expenditure side, councils have “power of general competence”, meaning they have the ability to choose the activities they understand to fulfil their statutory role and how they should undertake them, subject to public consultation.

Donor funding

It refers to capital grants from international or national institutions (other than CG). In EU countries, the main source of donor funding are the EU Cohesion and Structural Funds, which typically takes the form of capital grants. Other sources could be for example donations from philanthropy or crowdfunding.

Table 8.1. Availability of funding options

	Funding				
	Denmark	**Finland**	**Ireland**	**Netherlands**	**New Zealand**
Revenue and expenditure autonomy	**High**	**High**	**Low**	**Moderate**	**High**
	• CG transfers represent 60% of total LG revenues. • Tax raising capacity is high. Local taxes represent 36% of LG revenues. Main local tax is municipal income tax for which LGs can set the rates. • To avoid municipal income tax increases, CG imposes a tax stop on the aggregate tax revenues. Regions are mainly financed by state grants and subsidies though an equalisation system. • CG guarantees sufficient financing for LGs. • High discretion over expenditures.	•CG transfers represent only 32% of total LG revenues. Grant allocation is centralised mainly in the Ministry of Finance. •Tax raising capacity is high representing 46% of total LG revenues. Unlimited right of LGs to levy the Personal Income Tax (PIT). This gives municipalities a risk close to the sovereign. •Long tradition of strong LGs' autonomy. •High discretion over expenditures.	• LGs heavily rely on CG grants and subsidies, which represent around 52% of LG revenues. • Tax raising capacity is moderate – around 19% of total revenue. • LGs raise around 26% of total revenue through commercial rates (fees) (commercial water charges, rental income, parking charges and similar). • Very limited spending responsibilities, mainly in social protection and housing sectors.	• Dutch SNGs substantially rely on CG transfers, which represent over 74% of LG revenues. • Tax raising capacity is relatively low – 10% of LG revenue. Municipalities have a right to set a property tax rate within pre-defined limits. Property taxation constitutes the largest share of local tax revenue. • Several grant funds exist which are redistributed based on an equalisation system. • Moderate discretion over expenditures. Municipalities receive earmarked grants (around 12% of revenues) which are subject to checks related to the objectives and conformity with rules.	• CG transfers represent 32% of total LG income. • Tax raising capacity is high representing 52% of LG income. Property tax represents about half of LGs' revenues and can be set freely (subject to citizen consultation). • LGs have "power of general competency" on expenditures, meaning they are free to choose the activities they understand to fulfil their statutory role, subject to public consultation.
Public investment grants	**Low**	**Low**	**High**	**High**	**Moderate**
	• ESIF support is low. However, smaller municipalities sometimes engage in such practices and typically finance the matching part from their own funds rather than via borrowing.	• Municipalities mostly use MuniFin loans to fund investments and barely rely on the assistance from the EU or other international organisations.	• ESIF support has been decreasing after having benefited substantially during the Cohesion period. • In 2018, the CG created two competitive funds, which provide grants to LGs' public investment projects.	• ESIF support is low. • Most of the local investments are directly financed by line ministries through grants.	• CG provides only a matching grant for transportation (roads).

Note: For all the tables (9.1, 9.2, 9.3, 9.4, 9.5 and 9.6) the framework refers to the importance (high/medium/low) of each of the elements in the national system, not its quality nor stringency.
Source: Vammalle and Bambalaite (2021[2]).

Fiscal discipline mechanisms

Fiscal discipline mechanisms consist of fiscal rules and direct controls, monitoring and enforcement mechanisms and insolvency frameworks (Table 8.2). Fiscal discipline mechanisms affect mainly the capacity of LGs to borrow to finance public investment. Indeed, while fiscal rules with stringent monitoring and enforcement mechanisms may limit the capacity of LGs to issue debt, they also increase the credibility of LG's solvability, thus making access to credit easier and lowering its cost.

In the Netherlands, municipalities are subject to a balanced budget rule, which is anchored in Municipalities Act. LG must prepare multi-year budgets, for the current fiscal year and three following years. LG budgets must include a special section on budgetary risks which may significantly affect the financial position of a municipality. The Dutch municipalities are also subject to borrowing limitation, which relate to the term structure of government debt and not the total debt levels. Furthermore, since 2013, Dutch local authorities are subject to an annual deficit limit, which aims to limit risks of government exceeding EMU deficit limit of 3%. An aggregate deficit limit of 0.5% of GDP is applied to local authorities: 0.38% for municipalities, 0.07% for provinces and 0.05% for the water boards (OECD, 2021[9]).

Table 8.2. Prevalence of fiscal discipline mechanisms

	Fiscal discipline mechanisms				
	Denmark	**Finland**	**Ireland**	**Netherlands**	**New Zealand**
Fiscal rules	**High**	**Moderate**	**Low**	**High**	**Low**
	• LGs are subject to a structural balanced budget rule (on operating and capital budgets in aggregate). • Expenditure ceiling (separate for services and capital expenditure) – ceiling on aggregate LG expenditure, not on individual municipalities. •High discretion over expenditures.	• Strict and tightly enforced balanced budget rule. LGs must present financial plans in balance or surplus (calculated in accruals and including both capital and operating budgets), and if a deficit happens, it must be covered within four years.	• LGs are subject to the balanced budget rule on their operating budget (golden rule) calculated in accruals. • Deficit rule applied to LG sector as a whole not on individual municipalities.	• Structural balanced budget rule (on both operating and capital budgets and off-budget funds) calculated in modified cash basis. • Multi-annual budget balance requirement – similar to that of CG. • Borrowing limits on short and long term borrowing to limit risks of an interest rate change.	• Only balanced budget rule on operating expenditures (golden rule) calculated in accruals. No restriction for capital expenditure.
Direct controls	**Extremely high**	**Low**	**Extremely high**	**Low**	**Low**
	• Generally, borrowing is not permitted. Several exceptions exist: borrowing for utility services and borrowing with a prior agreement for other types of investments is allowed.	• Municipalities are allowed to act at their own discretion as long as they are within the established rules.	• LGs can only borrow from CG and are subject to an annual debt ceiling for new borrowing.	• No CG direct controls with regards to borrowing.	• Reporting mechanisms are very developed, but there are no direct controls.
Monitoring and enforcement mechanisms	**Extremely high**	**Extremely high**	**Moderate**	**High**	**High**
	• Compliance with fiscal rules is monitored by the Economic Council within the Ministry of Interior. • In case of non-compliance, with the fiscal rules, gaps must be compensated the following year. The CG may reduce transfers. • In case of the breach of the overdraft facility, an automatic correction procedure is triggered and municipalities are "put under administration" until fiscal sustainability objectives are reached.	• The MoF monitors five deficit and debt indicators. If indicators break the threshold, municipality enters the "assessment mechanism" and must develop a correction plan together with the Ministry of Finance. • In severe non-compliance, municipal mergers can be imposed, but such cases are very rare. • Strong scrutiny of municipal fiscal position from the Municipal Guarantee board and MuniFin for approving loans.	• Borrowing constraints and monitoring and enforcement mechanisms are less relevant in Ireland due to stringent controls from the CG. • The National Oversight and Auditing Commission for Local Governments oversees LG performance and examines the value for money in service delivery.	• Provinces conduct *ex post* compliance with fiscal rules, checks and monitors other financial sustainability indicators. It may put municipalities in financial distress under direct supervision. • Bailout mechanisms for municipalities in financial distress exist. However, these are used rarely due to sound fiscal stance of municipalities and well-established equalisation system.	• Monitoring mechanisms and peer pressure are very strong. Many LGs have credit ratings, the LGNZ association also rates the councils, LGFA monitors their debt levels. • All accounts are audited by the Office of the Auditor General. • In case of severe mismanagement, CG can temporarily replace the LG administration with CG officials.
Insolvency frameworks	**Low**	**Low**	**Low**	**Low**	**High**
	• Municipal bankruptcies are not allowed.	• No formal insolvency mechanism. Early prevention mechanisms make municipal default very unlikely.	• None: direct CG controls and transfers ensure no LG defaults.	• Municipal bankruptcies are not allowed.	• In case of a LG default, lenders can appoint a receiver who can collect the property tax directly for the lender.

Financial instruments – debt, PPPs and alternative financing

Financial instruments consist on debt (loans and bonds), PPPs, and alternative financing (Table 8.3). Loans can be regular loans from private banks or multi-lateral financial institutions (such as the European Investment Bank (EIB)), from local government financing agencies or from the CG. Unlike loans which are

a bilateral contract between a borrower and a lender, bonds are issued on financial markets and traded amongst a large number of investors. Bonds usually have longer maturities than loans, however, to attract investors, they must have a sufficient size and liquidity, which is rarely possible for small LGs to achieve. Alternative sources of financing are the availability of private partners to enter into public-private partnerships to finance local investment for example, special purpose vehicles or lease contracts, crowdfunding, etc.

In Ireland, PPPs are governed by a statutory framework, and supported by a national competence centre, the National Development Finance Agency. In 2019 ,there were 29 PPP projects in operation or construction stage, with a total construction capital cost of EUR 5 177 million. An additional EUR 500 million has been earmarked for a further 3 project bundles. It is not unusual for several projects of the same nature are to be bundled together to reach a minimum size of EUR 100 million. Furthermore, guarantee schemes are also an important institution which can reduce cost of borrowing for LGs, and in some cases, enable them to access financial resources. Guarantees can be provided directly by the CG, or through a guarantee fund. Guarantees can be provided to individual LG loans or to pooled LGs loans.

Another example is New Zealand, which is currently discussing the creation of a new financial instrument to overcome limits from debt ceiling. In New Zealand, municipalities are submitted to a 250% net debt to total revenue ratio (see Box 2.2 in Vammalle and Bambalate (2021[2])), which is quite high but sometimes defer needed public investment, in particular in LG with special characteristics (e.g. fast-growing LGs, LGs coping with the effect of climate change, etc.). One key barrier to the supply of developable urban land for example, is the councils' ability to borrow to build the necessary supporting infrastructure (Treasury, 2019[10]). Today, New Zealand has three models for financing and funding public infrastructure: CG transfers (mainly used for roads), LG property taxes, and development contributions:

- ***LG's property taxes financing model:*** The council borrows money to finance the supporting infrastructure for developing new land and is responsible for the construction of the assets (i.e. debt to revenue ratio of council increases). Developers build houses on this land which they sell to home owners. Once houses are sold and new home owners arrive, property tax income of the council will increase and be used to repay the initial loans.
- ***Development contributions model:*** In this model, the council borrows to finance the supporting infrastructure, and is responsible for construction of the infrastructure assets. Developers building the houses on the new land pay a contribution to the council, which is used by the council to repay the loans. The advantage compared to the previous model is that the council receives the revenues for its investments faster, reducing the time mismatch between disbursement of funds and collection of revenues. However, it still increases LG's debt to revenue ratio and is therefore subject to the celling.

Moreover, New Zealand is currently discussing an "Infrastructure Funding and Financing Bill", which would set up a fourth model to finance public infrastructure.

- **The contemplated Levy model** proposes to create a special purpose vehicle (SPV) which would borrow on the market to build the infrastructure asset and would be responsible for the construction of the asset. The SPV debts would be backed by a newly authorised "Levy" (similar to a property tax but earmarked for financing the infrastructure investment) on the owners of the properties which benefit from the infrastructure. The LG would collect the Levy on behalf of the SPV, but if levy payers defaulted, the SPV could seize their property to repay their debts. The SPV would thus be guaranteed by the owners of the properties benefitting from the infrastructure investment, and ultimately, by the properties themselves (i.e. not guaranteed either by the LG or by the CG). In this way, the borrowing for the infrastructure would not be in the LG's books, and would therefore not be subject to or deteriorate the LG's debt ceiling.

Table 8.3. Prevalence of financial instruments

	Financial instruments				
	Denmark	**Finland**	**Ireland**	**Netherlands**	**New Zealand**
Loans	**High**	**High**	**Moderate**	**High**	**Moderate**
	• Municipalities do not rely on commercial debt. However, reliance on loans is high, as the KommuneKredit loans are a preferred investment financing option for Danish municipalities.	• Municipalities heavily rely on loans, most of which are from MuniFin. • Only biggest municipalities take loans from commercial banks. • Finnish municipalities are able to attract international investors (e.g. EIB, EBRD).	• Commercial debt is not allowed: LGs can only borrow from the state agencies. The Housing Finance Agency is a state agency from which municipalities borrow for housing related projects.	• Dutch municipalities heavily rely on loans, most of which are from the Municipal Bank of the Netherlands (BNG Bank).	• Loans represent only about 40% of total LG debt. • Most LG borrowing is done through LGFA. Municipalities do not rely on commercial debt. • Only Auckland is too large to fully rely on the LGFA and regularly borrows from commercial banks.
Bonds	**Moderate**	**High**	**Moderate**		**High**
	• Municipalities do not issue individual bonds. • KommuneKredit places bonds on financial markets.	• The biggest municipalities issue their own bonds. • MuniFin places bonds on financial markets.	• Municipalities are not allowed to issue bonds. • The Housing Funding Agency raises its funds on the domestic and international capital markets.		• Auckland issues bonds internationally. • The New Zealand LGFA issues bonds on domestic and international markets.
PPPs and other alternative financing	**Low**	**Moderate**	**Low**	**Low**	**Moderate**
	• Municipalities and regions sometimes engage in PPP agreements. KommuneKredit may provide funding for PPPs	• LGs were not allowed to use PPPs until 2018. Since there are only 5-6 providers in the market, therefore, capacity constraints are high. • Real-estate leasing and repurposing are actively used.	• LGs typically rely on CG funding and rarely engage in different types of financing. • Projects for PPPs are bundled together to achieve greater economies of scale, but these are typically carried out at the CG level.	• Municipalities rarely engage in alternative financing for public investment practices.	• Possibly high in the future. • A bill is currently under discussion to create a "Levy Model" to finance infrastructure.
Guarantees	**High**	**High**	**High**		**High**
	• Municipalities jointly and severally guarantee KommuneKredit funding	• MuniFin funding is guaranteed by the Municipal Guarantee Board.	• CG provides an explicit guarantee for LG borrowing.		• LG debts are guaranteed by their property tax revenues. Lenders can appoint a receiver to collect the tax. • LGFA debt and bonds is guaranteed by all its shareholders and all LGs borrowing above NZD 20 million.

Financial institutions

Financial institutions refer to the intermediaries and institutions which make funds available to LGs for public investment, determine the criteria under which these funds can be accessed, and the conditions for accessing them (Table 8.4). The most frequent financial institutions for LG public investment are local government financing agencies (LGFAs) and public investment funds (created and funded by the CG or supra-national institutions such as the EU). Public investment funds refer to funds created by CGs or other public institutions to finance local public investment. These provide, for example, subsidised loans or capital grants (see Box 8.2).

Box 8.2. Examples of local government financing agencies and funds

The Danish KommuneKredit is a specialised publicly owned non-profit financial institution providing loans to Danish regions, municipalities, municipal-owned enterprises and companies undertaking regional or municipal tasks. It issues bonds on national and international markets and lends to its clients with only a small administrative margin.

KommuneKredit liabilities are jointly and severally guaranteed by all members, meaning that each member assumes the liability for the entire amount owed by KommuneKredit. The guarantee of the members can be called upon without a preceding court decision, and all municipalities are obliged to pay the creditors immediately. This guarantee is a cornerstone of the successful functioning of the institution and a key factor behind its triple-A credit rating. However, the system and monitoring procedures are such that exercising the guarantee has not been needed so far. Municipalities and regions apply to KommuneKredit funding both individually and jointly. Importantly, municipalities themselves guarantee the timely payment of the loans taken by the municipal-owned enterprises and companies undertaking regional or municipal tasks. In addition to loans, KommuneKredit also offers financial leasing, advisory services and funding for PPPs.

Finnish municipalities enjoy extremely low borrowing costs thanks to the joint work of two financial institutions: MuniFin and the Municipal Guarantee Board.

MuniFin is a specialised financial[1, 2] institution owned primarily by the Finnish municipalities.[3] MuniFin pools the funding needs of Finnish municipalities, municipal enterprises and non-profit organisation, and issues bonds on global financial markets. It is explicitly guaranteed by the Municipal Guarantee Board, which allows MuniFin to place bonds at very favourable conditions. The Municipal Guarantee Board uses the loans from MuniFin as collateral and can only guarantee loans issued by MuniFin. To ensure the quality of the collateral, the Municipal Guarantee Board could refuse a loan as collateral, in which case, MuniFin would also reject that loan. MuniFin and the Municipal Guarantee Board have low operating expenditure and do not seek to make profits, and therefore lending rates from MuniFin to municipalities are extremely low and competitive. As a result, around 80% of municipal debt is financed through MuniFin (André and García, 2014[11]).

The Municipal Guarantee Board (MGB) purpose is to safeguard and develop the joint funding of Finnish municipalities. The MGB provides zero-risk weighted explicit guarantees for MuniFin funding, backed by the unlimited right of municipalities to levy taxes. The MGB guarantees carry AA+ ratings, which are capped to the rating of the State of Finland. The MGB provides a supporting function. It can inject any amount of money to keep the MuniFin from collapsing. In particular, the MGB can access the municipal tax base if needed. Importantly, the MGB guarantees MuniFin's loans/bonds, not municipalities' individual loans. Each entity is responsible for its own loans.

The Municipal Bank of the Netherlands (BNG Bank) is a funding agency established by the Dutch Association of Municipalities in order to help municipalities' access credit markets. Half of the bank's share capital is held by the CG and the other half by municipalities, provinces and a water board. The BNG provides loans to housing associations, healthcare institutions and public utilities under different conditions than for municipalities. The financial relationship between central and local government in the Netherlands is structured in such a way that the credit quality of Dutch municipalities is equal to that of the State of the Netherlands, rated Aaa

by Moody's (stable outlook), AAA by Standard & Poor's (stable outlook) and AAA by Fitch (stable outlook). Dutch municipalities are not rated individually. Loans to Dutch municipalities are 0% risk weighted by the Dutch central bank.

In New-Zealand, the Local Government Funding Agency (LGFA) is a publicly owned financial institution very similar to the KommuneKredit in Denmark or the MuniFin in Finland. LGFA provides about 90% of LG loans, and de facto imposes a strict (though high) debt ceiling of net debt ratio below 250% to access its loans. As its Nordic peers, it issues debt and bonds on national and international markets and lends to LGs charging only a small margin to cover administration fees and dividends to its shareholders. It is guaranteed by all shareholders (except the CG) and all LGs which have outstanding loans above NZD 20 million. Only 30 LG councils are shareholders of LGFA (meaning they will receive dividends on their shares). However, borrowing from LGFA is not limited to shareholders. When borrowing from the LGFA, the LG automatically becomes a member of LGFA, and a guarantor if its loans are above NZD 20 million. LGFA can only lend to LGs (not to LG controlled enterprises). LG loans from LGFA are guaranteed by their property tax income: in case of default, LGFA could appoint a receiver to directly collect the tax. To beat alternative commercial banks costs of borrowing, the LGFA must maintain a credit rating as high as the sovereign. To achieve this, the LGFA imposes a number of financial commitments ("covenants") consistent with A+ rating on LGs which borrow from them. If a council breaches the covenants, they enter an "event of review", and after 30 days, LGFA can seek repayment of their outstanding loans.

1. The Financial Supervisory Authority supervises the MuniFin and the ECB acts as a watchdog.
2. The MuniFin is not allowed to take deposits thus cannot be considered a bank.
3. The municipalities own 53% of MuniFin shares (all municipalities participate), KeVa (the largest pension fund): 31%, and the state: 16%.

Ireland does not have a LGFA, however, in 2018, it established two funds to fund public investment by local authorities: the Urban Regeneration and Development Fund (URDF) (EUR 2 billion) within the Department of Housing, Planning and Local Government, and the Rural Regeneration and Development Fund (RRDF) (EUR 1 billion) within the Department of Rural and Community Development. These funds are inspired by the EU structural funds' competitive bid process and matching requirements and are fully funded by the state budget.

The differentiation between urban and rural funds allows LGs with different needs, size and administrative capacities to access funding, avoiding competition for funding between rural and urban areas and projects. Eligibility criteria for these funds ensure that all local authorities are entitled to apply to one of the two funds. Importantly, the funds are not bounded by thematic or sectoral requirements.[6] On the contrary, the key evaluation criteria create incentives for Irish LGs to come up with complex and multi-dimensional and multi-sectoral projects, further strengthening their capacities. Irish LGs participating in these measures are required to co-finance at least 25% of the project.

Moreover, local authorities can borrow to a centralised borrowing agency, guaranteed by the central government. The Housing Finance Agency Ireland (HFA) is a company under the aegis of the Minister for Housing, Planning and Local Government of Ireland. It provides loans at preferential rates to local authorities, voluntary housing sector and higher education institutions to finance housing related projects. The HFA offers Irish local authorities long-term fixed interest rates with 20-30 years maturities and lends to local authorities at very competitive rates. It raises its funds on the domestic and international capital markets, and its funding is explicitly guaranteed by the CG, allowing the HFA to borrow very cheaply. Moreover, the fact that Irish LGs cannot default[7] also acts as an implicit guarantee.

Table 8.4. Prevalence of financial institutions

	Financial institutions				
	Denmark	**Finland**	**Ireland**	**Netherlands**	**New Zealand**
CG lending	**Low**	**Low**	**High**		**Low**
	• CG does not lend to municipalities.	• CG does not lend to municipalities.	• Municipalities can only borrow from CG agencies: National Treasury Management Agency and Housing Finance Agency.		• CG does not lend to municipalities.
Public investment funds	**Low**	**Low**	**High**	**Low**	**Low**
	• PI funds are not prevalent in Denmark.	• PI funds are not prevalent.	• Two funds for public investment with CG funds: - Rural Regeneration and Development Fund. - Urban Regeneration and Development Fund. • Co-financing rate is 25%.	• PI funds are not prevalent in the Netherlands.	• PI funds are small, but an important share of public investment in regions is carried out by the CG directly (ex. National roads).
LGFAs	**High**	**High**	**Low**	**Moderate**	**High**
	• KommuneKredit, a LG-owned bank providing lending and financial leases, holds 99% of SNG loans.	• The MuniFin – a specialised municipality-owned financial institution pools municipal risk and provides loans to Finnish municipalities drawing on resources from financial markets.	• Ireland does not have a LG funding agency (it has one CG-owned agency specialised in lending for housing).	• Netherlands has a specialised public financial institution - the BNG Bank. • 50% of the bank's capital share is held by the CG and the other 50% by municipalities, provinces and a water board.	• The LGFA provides 90% of LG loans at rates below commercial banks'. The CG holds 20% of LGFA's shares. The remaining 80% are held by LGs.

Public financial management (PFM) systems

PFM systems are composed of budgeting practices, strategic planning practices and administrative capacity of LGs (Table 8.5). Good PFM practices are necessary to plan and design quality public investment projects, increase the appetite of lenders to finance LGs' investment projects – thus increasing the capacity of LGs to borrow – and help attracting alternative funding, such as private partners for PPPs.

For instance, during its transition towards a developed economy, Ireland has benefited from the EU structural funds not only in monetary terms but also in building a solid capacity for executing capital investments. Ireland has endorsed through its local legislation the discipline elements taken from the EU structural funds framework: evaluations, appraisals, multi-annual development and budgetary plans. This was reinforced by Ireland's strong focus on investments in human capital.

Moreover, one of the cornerstones of the Irish public investment financing framework is comprehensive multi-annual planning involving multi-stakeholder public consultations and strong enforcement of policy priorities: "*Funding follows policy, not policy follows funding*". Ireland has a strong integration of financial plans with regional development plans. In 2018, it launched Project Ireland 2040, which articulates the National Planning Framework to 2040 and the National Development Plan (to 2027). These plans also set the context for Ireland's three regional assemblies to develop their regional spatial and economic strategies, co-ordinating with the local authorities, to ensure that national, regional and local plans align.

Another noteworthy example is New Zealand, where financial management, public consultation and transparency are very strong. New Zealand councils are required by the Local Government Act (2002) to provide financial strategies quantifying limits on the property tax rates, and to set prudent debt limits in consultation with their citizens.[8] The Local Government Act sets out a range of planning instruments relating to the provision of infrastructure. These include a 30 year infrastructure strategy, 10 years plans of activities and services, related to a financial strategy, and annual plans and reports. In addition, Local Government New Zealand (the LG association) has recently introduced the "CouncilMARK Programme": a council improvement and evaluation framework which aims to improve the public's knowledge of the work councils are doing in their communities and to support individual councils further improve the service and value they provide.

Table 8.5. Public Financial Management systems

	PMF systems				
	Denmark	**Finland**	**Ireland**	**Netherlands**	**New Zealand**
Budgeting and reporting practices	**Moderate**	**High**	**High**	**High**	**High**
	• LGs use cash accounting but prepare budgets on accrual basis. • High level of budgetary transparency. • Expenditure ceilings are decided for one year. Budget Act is scheduled to be revised in February 2021.	• Municipalities use accrual accounting. • Municipalities must present a financial plan for at least three years in addition to the annual budget. • Municipalities must provide updated financial data to the Statistical Authority four times a year. The MoF uses these data to assess municipalities' fiscal position once a year in June. • Financial information is published with built-in analytical tool.	• Budgets are prepared on accrual basis. • Budgeting is subject to distinct planning and financial reporting mechanisms. • Appraisal and evaluation mechanisms are well developed. • Predictability of future funds is high: five year envelope for capital budgets for Departments	• Municipalities prepare and approve budgets for four years using income and expense system. • High level of budgetary transparency. • Medium-term perspective in budget preparation is well established.	• LGs use accrual budgeting since 1990. • LGs usually rely on large international firms to prepare their accounts and financial strategies.
Strategic planning practices	**Low**	**High**	**High**	**High**	**High**
	• Municipalities do not prepare overall long-term strategic infrastructure plans, but sectoral plans exist.	• LGs must prepare 10 years strategic and investment plans. • Larger municipalities use sophisticated financial management tools to plan their investments.	• Strategic planning practices are highly developed in Ireland. In the context of the Project Ireland 2040, the Ireland National Planning Framework (NPF) was established. It elaborates development strategies for regions, cities, towns and rural areas for the next decade.	• Netherlands has an elaborate investment planning programme (the Multi-Year Plan for Infrastructure, Spatial Planning and Transport (MIRT)). • Any Ministry or local or regional authority can launch or participate in the programme and is finalised by collective agreements.	• LGs must provide a 30 year infrastructure strategy, a ten year plan and financial strategy, an asset management plan and annual plans and reports. Assumptions of these plans are audited by the Office of the Auditor General.
Administrative capacity	**High**	**High**	**High**	**Moderate**	**High**
	• There are no differences in terms of administrative capacities across Danish municipalities due to homogeneity of municipalities.	• Reliance on highly skilled municipal civil servants.	• Strong focus on administrative capacity building (especially, during the Cohesion period) for the execution of capital investments.	• Dutch SNG sector employs a higher share of civil servants than CG (166 000 and 115 000 respectively).	• Administrative capacity is high. Mayors appoint professional Chief Executives. Most LGs outsource their treasury management to private companies.

Multi-level governance (MLG)

Multi-level governance consists of vertical and horizontal co-ordination mechanisms (Table 8.6). Vertical co-ordination mechanisms are necessary to align policies across levels of government, ensure monitoring of LGs' situation, and when needed, provide them technical support. Horizontal co-ordination allows to increase efficiency by avoiding redundancies of projects, and pooling resources together.

For example, Ireland put in place a strong vertical co-ordination mechanism through the Department of Housing, Planning and Local Government, which has the overall responsibility for municipal affairs. Within the Department, the Local Government Division co-ordinates planning and monitors the financial health of local authorities, offering guidance and advice for sustainable financial planning. If a local authority faces severe financial difficulties, the Local Government Division elaborates a plan and a funding package for five years, with special financial targets to be achieved by the local authority.

In the Netherlands, municipalities are supervised by provinces, which, in turn, are supervised by the Ministry of Interior. Provinces are assigned the task of supervising municipal finances (vertical supervision) for the municipalities within its own province. The financial supervision is based on the principles of "a premise of trust in the own responsibility of municipalities by staying alert to financial problems' and "checks on information quality'. The main focus is on retrospective supervision, also referred to as repressive supervision. Provinces may signal to the council and alderman (the daily management) to make the necessary adjustments in their budgets. However, provinces cannot impose measures on Dutch municipalities unless for specific situations.

Similarly, Finland implemented a strong vertical co-operation structure in the Ministry of Finance. The Ministry of Finance develops regulations that generally relates to the local authorities. Over the last decade, multiple reforms have reinforced the central role of the Ministry of Finance in municipal affairs.[9] The Local Government Affairs department monitors and assesses the status and development of the finances of municipalities. It follows a set of indicators and meets regularly with the financial unit of municipalities. The Local Government Affairs department is now responsible for more than 80% of grant allocations to municipalities. Moreover, the Local Government Affairs department at the Ministry of Finance closely collaborates with the Association of Finnish Local and Regional Authorities, which can take part in workgroups of ministries, when they prepare reports.

Table 8.6. Multi-level governance practices

	Multi-level governance				
	Denmark	**Finland**	**Ireland**	**Netherlands**	**New Zealand**
Vertical co-ordination and support mechanisms	**High**	**High**	**High**	**High**	**Moderate**
	• There is a strong vertical co-ordination where the association of Local Government (Local Denmark (LGDK)) negotiates collective expenditure, taxation and loan pool limits with the CG. The Ministry of Interior is the main contact point for LGs at the CG level and monitors LGs' financial situation.	• A special department within the MoF routinely assesses municipalities' finances and can assist municipalities "in very difficult financial position" in developing correction plans. • Local Association of Local and Regional Authorities lobbies to secure and improve local government functions at the CG and the EU levels. A subsidiary of the Association provides consultancy services for bigger investments through a separately established entity.	• A dedicated ministry responsible for municipal affairs – Department of Housing, Planning and Local Government - co-ordinates planning and manages the funding of LGs in Ireland.	• Well-established vertical co-ordination mechanism, where provinces supervise municipalities and CG, namely, the Ministry of Interior supervises provinces	• The Department of Internal Affairs is responsible for the day to day relation with LGs, and the Treasury for issues which could affect national sustainability. • The LG association, LGNZ represents LGs when discussing national policies. It also assesses quality of LG management and provides recommendations and benchmarks.
Inter-municipal (horizontal) co-ordination and co-operation	**High**	**High**	**Low**	**High**	**Low**
	• There is a particularly strong horizontal co-ordination between LGs, which must allocate among themselves the ceilings set by the CG for aggregate expenditure, taxes and debts of LGs. These negotiations are facilitated by the association of Danish LGs (LGDK)	• Voluntary inter-municipal co-operation is very common, usually through joint municipal authorities. • In specialised healthcare and regional planning, LGs are obliged to form such joint municipal authorities.	• There is no strong culture of municipal co-operation.	• Municipalities voluntarily engage in joint structures to achieve greater scale. Over 900 horizontal co-operation structures exist.	• There are few cases of horizontal co-operation.

Four systems to ensure local fiscal efficiency and sustainability

Fiscal and financial frameworks vary greatly from country to country (Figure 8.3), with some countries like Denmark or Finland, giving large autonomy to LGs, in terms of revenue-raising capacity, expenditure decisions or borrowing rules for example.

Denmark is one of the most decentralised countries in the OECD. The Danish local sector is highly relevant both from the political and economic perspective, representing nearly two-thirds of total public expenditure. This is the highest rate among unitary OECD countries and nearly triple the OECD average of 23%.The main source of LG revenue is the municipal income tax, which represents up to 70 or 80% of LG revenues (and about 27% of total general government revenues). Danish local investments represent nearly half of total public investments in Denmark (46%). Moreover, Danish LG debt (about 22%) is above the OECD average of 11%.

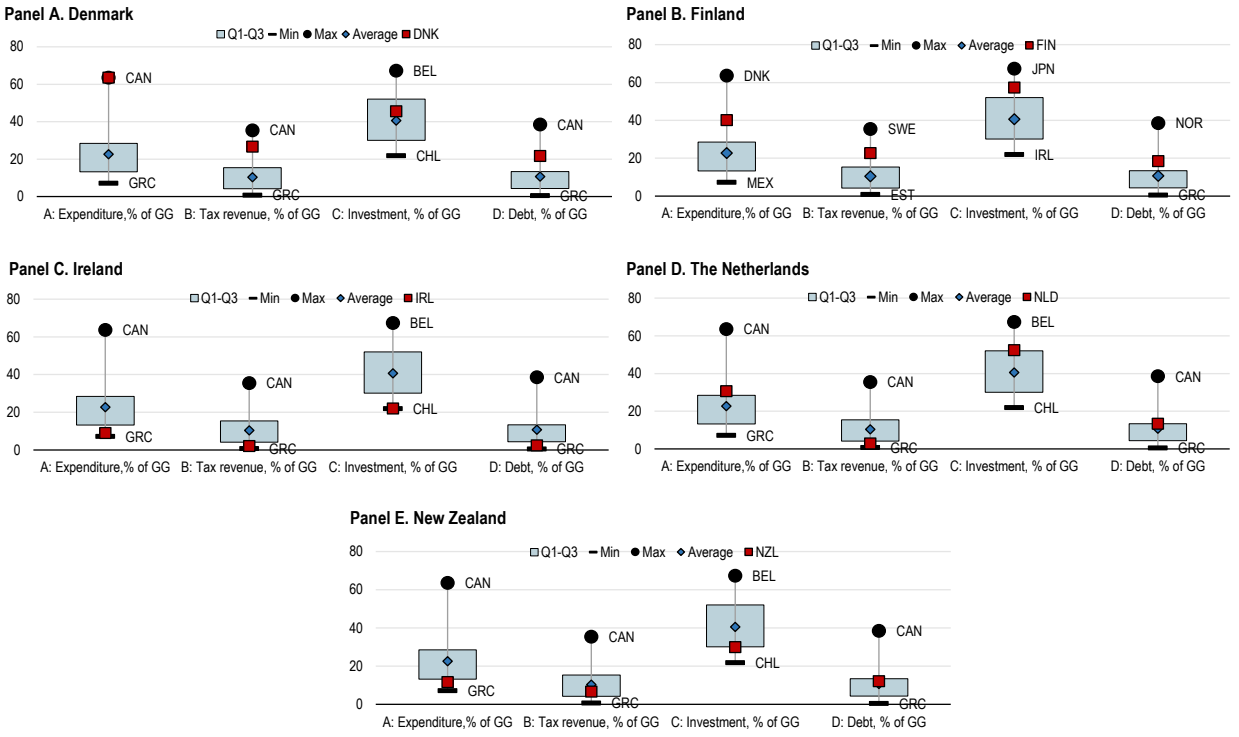
In the same way, Finland, is a highly decentralised country, with a very large role of LGs in public investment. About 57% of public investment is carried out at the local level. LG expenditure level as a share of general government expenditure (40%) is well above OECD average. Moreover, LGs' tax raising capacity is relatively high compared to OECD counterparts, representing about 23% of total public tax revenue. Municipal debt accounts for 18% of total general government debt in Finland.

At the opposite, other countries, like Ireland, place a much tighter grip on LG autonomy and decision-making power. Ireland is one of the most centralised countries across OECD. The thirty-one local authorities in Ireland carry out only 22% of total public investment – the lowest number among OECD. Municipal expenditures represent only about 9% of general government expenditure and LGs' tax raising capacity is particularly low, only 2% of total public tax revenue.

Between Denmark and Ireland, the Netherlands is a moderately decentralised unitary country with LG expenditure representing 30% of total general government expenditure. The Netherlands has two tires of subnational government: provinces[10] and municipalities. The later (LGs) are responsible for most of the SNG expenditure and debt, while provinces' main role consists of the supervision of municipal financial management, and spatial planning. LGs in the Netherlands are of particular importance in terms of public investment carrying out about 52% of all public investments.

An interesting case is New Zealand, where the LGs are smaller than in most OECD countries in terms of spending ratios, but within their functions, LGs are extremely free to raise taxes (property tax represents 50% of their revenues), spend or borrow. As they are not responsible for health, social protection or education, LGs in New Zealand have a smaller policy role than in most OECD countries. However, they do play a significant role in public investment. In 2016, one-third of LGs' expenditure was dedicated to investment (roads, transport and utilities), which represented 1.3% of GDP (OECD, 2021[9]).

Figure 8.3. LG expenditure, investment and debt as a share of GG and LG tax revenues as a share of total tax revenues, 2018



Note: Panel A: data unavailable for Australia, Chile, Japan, South Korea, Turkey and USA; Panel B: data unavailable for Australia, Japan, Mexico; Panel C: Gross capital formation is used as a proxy for investment (GP5P), data unavailable for Australia, Chile, USA, data for New Zealand refers to 2017; Panel D: data unavailable for Israel, Australia, Chile, Iceland, South Korea, Mexico, USA.
Source: Panel A: OECD Fiscal Decentralisation Database; Panel B: OECD (2018[12]); Panel C: Based on OECD National Accounts database; Panel D: OECD (2019[4]).

StatLink https://stat.link/ifrg8u

The different elements affecting LGs' capacity to finance and fund public investment are not independent of one another but are often put together to form various types of financing systems. In particular, there are different ways for ensuring LGs do not issue too much debt which could be a threat to the national fiscal sustainability.[11] Following a standard classification, there are four types of systems for ensuring SNG's fiscal sustainability. These systems also apply to LGs:[12]

Market-based systems

Market-based systems mainly rely on lenders to monitor local debt, ensuring the quality of debt-financed investment projects and fiscal sustainability. Market-based systems are very close to borrowing frameworks for sovereign governments. Thus, to borrow in good terms on financial markets under such systems, LGs must have a high level of capacity and autonomy. In addition, there are some pre-requisites for such systems to work effectively. For example, the "no-bailout" clause must be credible. This implies first, that LGs must be able to increase their revenues to repay their debt (for example, by having a relatively high share of taxes in LG revenues, and a high level of tax autonomy), and second that an insolvency framework provides rules to resolve unsustainable local borrowing. Lenders must have high-quality financial information on the LG, thus implying high-quality PFM systems, requiring well-functioning deep and diversified financial markets. In this type of system, fiscal rules are not very relevant, or could be self-imposed by the LG themselves.

For instance, the New Zealand system strongly rely on market mechanisms. A great number of LGs (31 out of the total 78) have a credit rating from a rating agency. These ratings are used as a simple and transparent "proxi" to evaluate the management of a LG, and all mayors have strong incentives to remain in the very high grades (in June 2020, 3 councils had AA+ ratings, 19 councils had AA ratings, six had AA- and one had A+). In addition, the cost of loans from LGFA (Box 2.2) is directly linked to the credit rating of the LG, which gives a second incentive to keep it high. This credit-rating based incentive is one of the main drivers for LG fiscal discipline in New Zealand.

Co-operative approach to debt controls

Here, limits on the indebtedness of LGs are not dictated by the CG, but rather negotiated amongst the different levels of government. Under this approach, SNGs participate actively in the definition of the macroeconomic objectives and the allocation of deficit and debt targets across levels of government. According to Teresa Ter-Minassian (1996[13]), "The cooperative approach has clear advantages in promoting dialogue and exchange of information across various government levels. It also raises the consciousness, in subnational-level policy makers, of macroeconomic implications of their budgetary choices. It seems, however, to work best in countries with an established culture of relative fiscal discipline and conservatism. It may not be effective in preventing a build-up of debt in conditions where either market discipline or the leadership of the central government in economic and fiscal management are weak".

Denmark illustrates this statement (Mau Pedersen and Jensen, 2021[14]). Its highly institutionalised system is the result of a long tradition of a co-operative approach to local finances, where instead of market or CG setting the binding limits on expenditure and borrowing, these are achieved through active negotiation between different stakeholders. The Danish CG sets every years aggregate ceilings for municipal expenditure and tax revenues, and determines additional loans options for LGs. The local government association (LGDK)[13] represents the municipalities[14] in the negotiations of these ceilings, called "economic agreement", with the CG. Once these ceilings are set, the LGDK also play a crucial role in the negotiations between the municipalities, for allocating the spending, taxing and borrowing space among themselves. The local government association plays a pivotal co-ordinating role in ensuring that agreed expenditure levels are met in both budgets and accounts. Such a system provides benefits to both CG and LGs. The Danish CG can limit expenditure growth while allowing for local decision making and sharing political responsibility for sometimes unpopular decisions. Moreover, LGs have an opportunity to influence public

policy on a national scale while maintaining an overall flexible framework for the individual municipality (LGDK, 2019[15]).

Rules-based systems

Decisions on borrowing are made by LGs within limits set by central-government-set fiscal rules. Fiscal rules typically consist of limits to the absolute level of LG indebtedness, restricting borrowing to specific purposes (typically investment), setting limits to the debt-service to revenues ratio, or requiring repayment of short-term liquidity loans before the end of the fiscal year. The role of the CG in this system is usually limited to ensuring compliance with the rules. Vertical co-ordination mechanisms are thus very important, as well as monitoring and enforcement mechanisms. CGs rarely interfere in the choice of the investment, hence requiring a high level of capacity from LGs (to design strategic plans, procure the projects, develop the financial instruments, etc.), and good quality PFM. Rules-based systems are praised for being transparent and equitable and provide an environment in which both investors and borrowers can assess the risk of the transaction. However, they are criticised for their lack of flexibility and are often prone to circumventing of the rules (through creative accounting practices or use of debt instruments, which are not included in the fiscal rules).

In Denmark, in addition to the collective current expenditure and tax limits, individual municipalities are subject to a structural balanced budget rule (zero structural deficit). Moreover, in general, municipal borrowing is not permitted and municipalities typically have enough fiscal space to finance investment projects with their own funds. However, several exceptions exist. In particular, municipalities are allowed to borrow for investments in utilities as these are expenditure-neutral. This is subject to the collective capital expenditure limit or other types of investments. For other types of investments, municipal borrowing is subject to the annual loan pool limits, which determines the maximum aggregate amount municipalities can borrow. Application to the loan pool is held once every year and the Ministry of Interior takes a discretionary decision for each borrowing request. When certain rules are breached, the Ministry of Interior directly intervenes, as bankruptcies are not legally permitted. However, a strong system of supervision and early detection of financially unsustainable behaviours allows to avoid the need for bailouts and hence limit moral hazard and potential free-riding.

Direct controls systems

At the other end of the spectrum, some countries rely on direct CG control over LG borrowing. These controls can take different forms, such as setting annual limits on individual LG debt, an *ex ante* CG review and approval of LG debt transactions, the centralisation of all borrowing at the central level, and on-lending to LGs for specific projects (usually public investment). In this type of system, the quality of investments and sustainability of LG finances is essentially ensured by CG control. Fiscal rules become almost irrelevant, with CG explicitly or implicitly guaranteeing LG debt. The responsibility to ensure sufficient revenues for LGs to repay their debts therefore lies with the CG, and revenue autonomy is not important and insolvency frameworks are not necessary. In such systems, LGs tend to have a low level of investment funding capacity, as the decision power lies at CG level. In addition, the CG itself lends to LGs, as it can do so on better conditions than private lenders. A common criticism to this type of system is that the criteria used to review and authorise borrowing operations may be variable or unclear. Insufficient capacity of LGs is often quoted by CGs to justify direct controls. However, it is rational for LGs not to develop the capacity if they do not need to use it. Moving away from this type of system thus requires measures to reinforce the capacity of LGs.

In Ireland, the investment funding system can be considered as direct control. The CG has significant control over LG affairs, and LG autonomy is very limited both in terms of own-revenue raising capacity and discretion over spending. Nonetheless, Irish municipalities are allowed to borrow[15] from state-owned agencies with prior CG approval.

In practice, most national frameworks consist of a mix of these four systems, although some lean more towards one or the other.

For instance, the Finnish municipal borrowing framework can be considered as a mix of rules-based and market-based systems. Finnish municipalities, which enjoy high levels of fiscal autonomy[16] are under a tight fiscal supervision coupled with strong enforcement mechanisms: if there are no formal borrowing rules, they are subject to a balanced budget rule.[17] Breaching specific financial sustainability criteria set by the Ministry of Finance triggers a special assessment process: officials from the Ministry of Finance visit municipalities "in crisis" providing advice on how to improve their financial situation and assist them in developing correction plans. In case of severe non-compliance, CG has the legal authority to force municipal mergers. Such forced mergers are rare, but have happened four times since the introduction of the mechanism in the year 2015, and being a municipality "in assessment" carries a negative connotation in terms of public image This tight fiscal supervision, coupled with strong enforcement instruments, acts as a strong preventative measure incentivising Finnish municipalities to manage their finances sustainably. Furthermore, all Finnish municipalities face strong peer pressure and market incentives. The Finnish municipalities jointly guarantee the Municipal Guarantee Board,[18] and indirectly guarantee all other municipal loans. Municipalities therefore have a strong incentive to maintain strong financial positions, as otherwise, they would not be able to access the low-cost financing through MuniFin. Finland enjoys a long tradition of municipal autonomy and bottom-up policy making. Municipal self-government is anchored in the Constitution. These long-standing multi-level governance relations created a high level of trust in a municipal decision-making capacity, in turn creating conditions for building up administrative capabilities necessary to carry out complex tasks. These three institutional and governance elements play a crucial role in ensuring the high average creditworthiness of Finnish municipalities, giving them a credit rating close to the sovereign.

Another noteworthy practice is the horizontal co-operation for cost-efficiency and improved quality of service delivery. In the Netherlands, there are over 900 inter-municipal co-operation structures (The Ministry of Interior and Kingdom Relations, 2020[16]) indicating that horizontal co-operation is a wide-spread practice. Many formal and informal co-ordination arrangements emerge not only between municipalities but also with water boards, provinces, and CG. The increase of different inter-municipal arrangements over time is mainly driven by the CG, increasingly transferring responsibilities to the lower levels of government (OECD, 2014[17]). Such a wide-spread practice of horizontal co-operation positively contributed to the quality and cost of the services provided by municipalities. Municipalities sometimes choose to engage not only in joint funding but also in joint levy of taxes (Brand, 2016[18]).

As such, it is important to highlight the need for internal coherence among the different elements (Table 8.7), which is a precondition for efficiency and sustainability of local public finances. There is not one system or mix of system which could be considered as the optimal or more effective system. Indeed, different combinations of the elements can yield similar outcomes. In addition, while the government could influence some of these elements, many are constrained by exogenous factors such as the institutional framework, the existence of supra-nationally imposed fiscal rules, the level of capacity of LGs, the culture of the country and the preference of people.

Table 8.7. Interaction between elements affecting borrowing capacity under different systems

Relative importance and quality of elements encompassing institutional framework

Factors affecting PI financing capacity		SNG borrowing systems			
		Market-based systems	Co-operative approach	Rule-based systems	Direct control systems
Funding	Rev. mix & expend. Auto.	SNGs can increase revenues or reallocate spending to repay debts.	Level of SNG revenues, expenditure and deficit are agreed between SNGs and CG.	A larger capacity to generate fiscal space allows a higher level of borrowing within the rules	CGs approve SNG investment projects, and ensure they have sufficient funds to finance them
	Donor fund.	Does not affect fiscal discipline mechanisms	Availability of donor funding does not affect fiscal discipline mechanisms	Availability of donor funding does not affect fiscal discipline mechanisms	Availability of donor funding does not affect fiscal discipline mechanisms
Fiscal discipline mechanisms	Fiscal rules	Market interest rates increase when SNG debt levels rise, thus decreasing demand for loans.	Decisions result from a negotiation process and bilateral or multi-lateral agreements. Fiscal rules are not needed.	Fiscal rules are the essence of the system. The quality of the rule is key.	Fiscal rules redundant, as the CG approval for borrowing is required.
	Direct controls	Direct controls are not needed and could reduce effectiveness of market controls.	Decisions result from a negotiation process and multilateral agreements. Direct controls are not needed.	If the fiscal rule is well designed, direct controls should be redundant.	Direct controls are the essence of the system.
	Monitoring and enforcement mechanisms	Monitoring of SNG debt level is carried out by lenders.	Credibility of commitments is necessary to achieve agreements and relies on the trust that the commitments will be respected.	The strength of monitoring and enforcement mechanisms is key in the success of the model.	CG assesses the fiscal sustainability of SNGs and the impact of the new debt on national sustainability. Rules are redundant.
	Insolvency frameworks	Insolvency frameworks allow investors to value risk, and prevent moral hazard and bailout anticipations from SNGs	Negotiation process should ensure that the agreements reached ensure fiscal sustainability, and therefore prevent SNG defaults.	In "normal circumstances", strict compliance with the rules avoids SNG insolvencies, and therefore insolvency frameworks are not necessary.	The CG implicitly (or explicitly) guarantees SNG debts, thus making insolvency frameworks un-necessary.
Financial institutions	CG lend.	**Low**	**Low**	**Low**	**High**
	Public invest. funds	**Low**	**Moderate**	**Moderate**	**High**
	LGFAs	**High**	**High**	**High**	**Low**
	Guarantees.	**Low**	**Low**	**Low**	**High**
PFM systems	Budgeting practices	Adequate information on borrower's outstanding debt and repayment capacity is available to lenders.	Adequate information on LG's financial positions is important for generating trust, which is a pre-requisite in this system.	Clear and uniform accounting standards limiting off-budget operations and clear definition of debt avoids circumventing the rules. Reliable data allows monitoring compliance with the rules.	Carried out by a CG. CG planning capacity ensures addressing the needs of the local communities.
	Stat. plan. pract.	**High**	**High**	**High**	**Low**
	Administrative capacity	Quality of investment plans, transparency, accountability and other PFM affect the assessment of risk by lenders and therefore the cost of borrowing.	High administrative capacity and negotiation skills are a key success factor in this system.	Quality of investment plans, transparency, accountability and other PFM affect the assessment of risk by lenders and therefore the cost of borrowing.	Quality of investment plans is ensured by the CG. A CG (or intermediary) carries out many functions on behalf of SNGs, which thus requires less administrative capacity.

Multi-level governance	**Horizontal co-ordination mechanisms**	While it is not a requisite, horizontal co-ordination – in particular to increase size of projects and pooling of risk – can decrease borrowing costs.	Mechanisms should be in place to allow negotiations and agreements amongst SNGs on how to allocate deficit and debt targets to achieve national objectives.	De facto co-ordination is achieved by following the same rules. However, while it is not a requisite, horizontal co-ordination – in particular to increase size of projects and pooling of risk – can decrease borrowing costs.	CG controls ensure that decisions take into account their aggregate effects. CG can also pool projects together to increase their scale and increase their effectiveness.
	Vertical co-ordination mechanisms	SNGs have institutional structures which ensure adequate policy responsiveness to market signals, there is no perceived chance of bailout.	Multi-level dialogue and co-operation is the backbone of this system.	Vertical co-ordination ensures compliance with rules Support from CG to SNGs can improve quality of projects and alignment with national objectives	SNGs usually have limited capacity, and require strong support from CG

Notes: The framework refers to the importance (high/medium/low) of each of the elements in the national system, not its quality nor stringency. E.g. "high" for fiscal rules does not mean fiscal rules are very high, but that fiscal rules are the building block of the institutional framework.

High
Moderate
Low

References

André, C. and C. García (2014), "Local Public Finances and Municipal Reform in Finland", *OECD Economics Department Working Papers*, No. 1121, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jz2qt0zj024-en. [11]

Blöchliger, H. and C. Vammalle (2012), *Reforming Fiscal Federalism and Local Government: Beyond the Zero-Sum Game*, OECD Fiscal Federalism Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264119970-en. [19]

Brand, D. (2016), *Local Government Finance*, SUN MEDIA, http://dx.doi.org/10.18820/9781920689988. [18]

Dexia (2012), *Finances publiques territoriales dans l'Union européenne*. [5]

Geißler, R., G. Hammerschmid and C. Raffer (eds.) (2018), *Local Public Finance in Europe: Country Reports - the Netherlands*, Bertelsmann Stiftung, http://dx.doi.org/10.11586/2019052. [7]

Hulbert, C. and C. Vammalle (2014), "A Sub-national Perspective on Financing Investment for Growth I - Measuring Fiscal Space for Public Investment: Influences, Evolution and Perspectives", *OECD Regional Development Working Papers*, No. 2014/2, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jz5j1qk8fhg-en. [21]

LGDK (2019), *Local Government Denmark (presentation)*. [15]

Mau Pedersen, N. and J. Jensen (2021), *Local government borrowing and the role of KommuneKredit: An international comparative analysis*, VIVE – The Danish Center for Social Science Research, https://www.vive.dk/media/pure/16718/6190243. [14]

New Zealand Productivity Commission (2019), *Local Government funding and financing. Final paper*. [8]

OECD (2021), *OECD Fiscal Decentralisation Database*, OECD, Paris, https://www.oecd.org/tax/federalism/fiscal-decentralisation-database/ (accessed on 30 August 2019). [9]

OECD (2019), "Government deficit/surplus, revenue, expenditure and main aggregates", *National Accounts*, OECD, Paris, https://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE12. [3]

OECD (2019), "Public Finance and Economics", in *Government at a Glance 2019*, OECD Publishing, Paris, https://www.oecd.org/gov/government-at-a-glance-2019-database.htm. [4]

OECD (2018), *Global Revenue Statistics*, OECD, Paris, https://www.oecd.org/tax/tax-policy/global-revenue-statistics-database.htm. [12]

OECD (2016), "Monitoring sub-central government debt: Trends, challenges and practices", in *Fiscal Federalism 2016: Making Decentralisation Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264254053-7-en. [22]

OECD (2014), *OECD Territorial Reviews: Netherlands 2014*, OECD Territorial Reviews, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264209527-en. [17]

OECD (2014), *Recommendation of the Council on Effective Public Investment aross Levels of Government*, OECD/LEGAL/0402, OECD, Paris, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0402. [1]

Ter-Minassian, T. (1996), "Borrowing by Subnational Governments: Issues and Selected International Experiences", *IMF Paper on Policy Analysis and Assessment*, http://dx.doi.org/9781451973280/1934-7456. [13]

The Ministry of Interior and Kingdom Relations (2020), *Staat van het Bestuur 2020*, https://kennisopenbaarbestuur.nl/media/257751/staat-van-het-bestuur-2020.pdf. [16]

Treasury (2019), *Urban Growth Agenda: Infrastructure Levy Model – Development Contributions Information Release*. [10]

Vammalle, C. and I. Bambalaite (2021), "Fiscal rules for subnational governments: The devil's in the details", *OECD Working Papers on Fiscal Federalism*, No. 35, OECD Publishing, Paris, https://dx.doi.org/10.1787/531da6f9-en. [20]

Vammalle, C. and I. Bambalaite (2021), "Funding and financing of local government public investment: A framework and application to five OECD Countries", *OECD Working Papers on Fiscal Federalism*, No. 34, OECD Publishing, Paris, https://dx.doi.org/10.1787/162d8285-en. [2]

VNG (2018), *Local Governments in the Netherlands*, https://bit.ly/2ZR1XFi. [6]

Annex 8.A. Synthesis of the case studies

Annex Table 8.A.1 presents the main elements identified in the analytical framework, together with the summary of the relative importance that each of these elements plays in the benchmark countries' frameworks.

Annex Table 8.A.1. Summary of LG investment funding and financing frameworks

	Elements[1]	Denmark	Finland	Ireland	Netherlands	New Zealand
Funding	Revenue and expenditure autonomy	High	Extremely High	Low	Moderate	High
	Public investment grants	Low	Low	High	High	Moderate
Fiscal discipline mechanisms	Fiscal rules	High	Moderate	Low	High	Low
	Direct controls	Extremely high	Low	Extremely high	Low	Low
	Monitoring and enforcement mechanisms	Extremely high	Extremely high	Moderate	High	High
	Insolvency frameworks	Low	Low	Low	Low	High
Financial instruments	Loans	High	High	Moderate	High	Moderate
	Bonds	Moderate	High	Moderate		High
	PPPs and other alternative financing	Low	Moderate	Low	Low	Moderate
	Guarantees	High	High	High		High
Financial institutions	CG lending	Low	Low	High		Low
	Public investment funds	Low	Low	High	Low	Low
	LGFAs	High	High	Low	Moderate	High
PFM systems	Budgeting and reporting practices	Moderate	High	High	High	High
	Strategic planning practices	Low	High	High	High	High
	Administrative capacity	High	High	High	Moderate	High
Multi-level governance	Vertical co-ordination and support mechanisms	High	High	High	High	Moderate
	Inter-municipal (horizontal) co-ordination and co-operation	High	High	Low	High	Low

1. Please note that the framework refers to the importance of each of the elements in the national system, not its quality nor stringency (the OECD did not carry out an assessment of the quality of the different elements in each country).

Notes

[1] The term 'regional governments' here refers to the first level of subnational governments only: regions, provinces, states, *länders*, etc.

[2] North European countries appear to be an exception to this statement, as municipalities in these countries have stronger legal status and roles than regions.

[3] See Vammalle and Bambalaite (2021[20]).

[4] This framework draws heavily on: Vammalle and Hulbert (2014[21]) and the *Council Recommendation on Effective Public Investment across Levels of Government* (OECD, 2014[1]).

[5] Based on Ter-Minassian (1996[13]).

[6] The only constraint is that these funds should not finance projects which benefit from funding streams from line departments (e.g. housing related projects).

[7] Direct CG controls and transfers ensure no LG defaults.

[8] The most common indicators used to set debt limits are: interest payments as a share of total revenues, interest payments as a share of total property tax income and total debt as a share of total revenue.

[9] See Blöchliger and Vammalle (2012[19]).

[10] Provinces in the Netherlands corresponds to the regional level rather than state level as in the case of Canada.

[11] For a deeper discussion on the potential risks of SNG debt, see: OECD (2016[22]).

[12] These three LG investment financing frameworks draw on the SNG borrowing frameworks presented in: Ter-Minassian (1996[13]).

[13] LGDK currently is one of the most influential interest organisations in Denmark. The association is not an administrative authority and thus not a part of public administration. Membership in the association is voluntary. Nonetheless, all 98 municipalities are members of LGDK. The main functions of the association include formal negotiations of economic agreements with the Ministry of Finance; mediating negotiations between individual municipalities; negotiating collective bargaining agreements on behalf of municipalities with labour unions; lobbying and promoting common municipal interests; counselling and shared services towards the municipalities; ensuring that the municipalities are provided with all relevant and up-to-date information regarding tasks, and communication and branding of the municipal sector (LGDK, 2019[15]).

[14] Similarly, regions are represented by the association of regions – Danske Regioner.

[15] The CG establishes each year a total debt ceiling for LG new borrowing (it is EUR 200 million for 2020 for example).

[16] Own taxes represent on average 50% of Finnish municipal revenues, and they can freely set the municipal personal income tax rate.

[17] Finnish municipalities must present financial plans in balance or surplus and must cover any deficit within a period of four years.

[18] The Municipal Guarantee Board assesses the sustainability of municipalities before approving a guarantee, and MuniFin follows that advice for approving loans.

9 Intergovernmental fiscal relations and the COVID-19 crisis: Early lessons

With all levels of government involved in handling the COVID-19 outbreak, intergovernmental relations have a crucial role to play in designing and implementing an effective response to the crisis. This chapter analyses the responses countries have taken through the channel of intergovernmental relations to tackle the pandemic at different stages of the crisis, highlighting lessons learnt. Not only have intergovernmental relations shaped the response to the crisis, but the crisis is shaping the future of intergovernmental relations. As the world economy and societies are going through radical changes due to the pandemic, fiscal federalism may have to adapt to the post-crisis period, when there are higher regional inequalities and greater interdependence between central and subnational policies.

Introduction

The COVID-19 pandemic is arguably one of the most disruptive events of the past century. The outbreak has affected daily life in unprecedented ways and might lead to permanent changes in our society. From our daily routines to economic policy, from public health to democracy, it is likely that the implications of the outbreak will be permanent and overarching.

When it comes to the implications of COVID-19 on policy making, one of the most widely discussed topics is fiscal federalism – that is, the division of governmental functions and financial relations across levels of government. The division of power across levels of governments is considered an efficient method for securing freedom in democracies (von Hayek, 1960[1]) and for maximising aggregate welfare, as each jurisdiction can choose its own public consumption bundle as opposed to when the same bundle is provided across all jurisdictions (Oates, 1972[2]).

In a crisis in which: a) containment measures have led to stringent restrictions to movement and freedom with substantial and asymmetric costs, b) the impact of policies and the regional severity of the crisis might affect neighbouring jurisdictions (i.e. via regional spill-over effects), c) tools to address the crisis are shared across levels of government, it is expected that there will be no unanimity with regard to the measures that should be taken and how these measures should be co-ordinated, leading to tensions concerning the decision-making autonomy of different jurisdictions and levels of government.

It is important to note that this tension is inherent in the asymmetric preferences across regions and the importance of distribution of power for securing freedom in democracies and is, therefore, not created by fiscal federalism. Actually, fiscal federalism can be the institutional solution to these issues and, therefore, in the context of COVID-19, having a well-functioning fiscal federalism system and intergovernmental relations framework are key to address the challenges of an asymmetric and severe crisis.

The objective of this chapter is to analyse the measures employed by OECD member and partner countries through the channel of intergovernmental relations to tackle the COVID-19 outbreak throughout the different stages of the crisis and to discuss lessons learnt and the future outlook. Experiencing a crisis can give crucial lessons to improve our current systems and procedures. The COVID-19 crisis, although painful, should not be wasted and should be leveraged to improve fiscal federalism across countries in a permanent manner.

This chapter is organised as follows: the first section provides a framework to separate the COVID-19 crisis into three different stages and summarises the main challenges related to intergovernmental relation in the context of the current outbreak. The remaining sections focus on intergovernmental fiscal challenges and measures employed/suggested for tackling the crisis at its different stages. The second section covers the emergency phase, in which there was substantial uncertainty with regard to the impact of the outbreak and relative scarcity of medical equipment, leading to more extreme and centralised measures. The third section covers the resolution phase, characterised by the advent of vaccines that can pave the way to the end of the pandemic and by the enhanced understanding of the impact of containment measures and treatments. And the fourth section discusses how federalism can adapt to the disruptive changes that wil likely occur as a result of the outbreak and how intergovernmental policy levers can be adjusted to hasten the recovery of the economy.

Box 9.1. Summary of the main findings

Key findings of this chapter include:

- The role of subnational governments and intergovernmental relations in tackling the crisis has varied substantially across countries depending on: 1) SNGs' spending and revenue assignments; 2) SNGs' discretion over tax policy; and 3) the intergovernmental grant systems and co-ordination mechanisms in place.
- State-of-emergency laws were used with great variety in OECD countries, with one group of countries effectively centralising decision-making power in the hands of the central government, while another group either did not declare a state-of-emergency or declared it but allowed SNGs to design and implement regionally targeted policies.
- Some countries had problems with their state-of-emergency law and/or emergency framework. As they were not used often, the distribution of power across levels of government was, in some cases, unclear or suboptimal, leading to judicial disputes. Thus, it is now possible to fill the gaps of these laws, leading to a more predictable response in future crises.
- While OECD countries have adopted centralised approaches twice as frequently to tackle the COVID-19 pandemic, both a centralised and a decentralised approach can be successful in containing the virus, as long as different levels of governments co-ordinate themselves well.
- Centralisation or decentralisation without effective intergovernmental co-ordination has led the responses of some countries to be suboptimal. Regarding the former, costly measures were imposed throughout the whole country even if the outbreak was localised while in the latter case regional disparities in health capacity and lack of intergovernmental co-ordination led to a suboptimal management of the resources.
- Intergovernmental co-ordination in the early stages of the crisis was particularly important for: 1) increasing the pool of resources available to tackle an asymmetric crisis within regions; 2) creating economies of scale in the procurement of equipment; 3) communicating consistently with the public; 4) promoting diffusion of effective policies and procedures; and 5) enhancing policy homogeneity in decentralised approaches.
- Countries have been using a variety of institutions to co-ordinate policy responses across levels of government and sectors. Some of these bodies were created with the purpose of handling emergencies while others re-oriented pre-existing bodies. Countries can keep these bodies after the crisis to enhance intergovernmental co-operation lastingly.
- Countries in which an emergency institutional framework already existed prior to the crisis called upon these to co-ordinate a national response vertically (i.e. across levels of government) and/or horizontally (i.e. within the same level of government) in a more quick and predictable manner. Thus, having an intergovernmental co-ordination mechanism in place prior to a crisis can be particularly helpful to enhance co-operation when it is needed the most.
- The role of different levels of government in vaccination programmes was kept mostly unaltered. In most cases, central governments were responsible for vaccine procurement, distribution, and, when necessary, financial support while SNGs for administering doses to local populations. This approach was largely successful in reducing regional disparities in vaccination access.
- The fiscal impact of the crisis in its peak (fiscal year of 2020) was asymmetric across levels of government, with central governments having the largest increase in expenditures and decrease in revenues as compared to SNGs. This can be explained by the fact that central governments by and large: 1) rely more on buoyant taxes than SNGs; 2) are responsible for

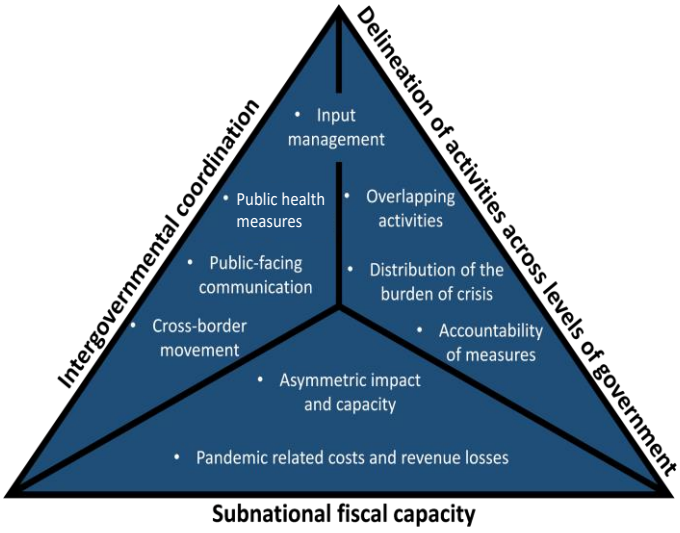
most social and business protection programmes; 3) provided more tax benefits and deferrals to tackle the crisis than SNGs; and 4) provided generous financial support to SNGs.

- To support SNGs' fiscal capacity to tackle the COVID-19 pandemic, central governments have stepped in, typically through additional grants, with no conditions attached, and through the lifting of fiscal rules. Loans and guarantees were used only by a minority of countries, all of which also provided support through grants. Hence, in most cases the support imposed substantial costs to central governments.
- In the next years the fiscal burden of the crisis might shift from central governments to SNGs because: 1) in some countries grants' value are based on tax revenues from the previous year, affecting SNGs with a lag; and 2) central governments resorted substantially to deferrals, which leads to a postponement of tax revenue collection.
- The COVID-19 crisis impacted sectors asymmetrically, as the necessary containment measures affected more heavily sectors related to tourism, food and accommodation. As economic activities vary across regions within countries, some jurisdictions were significantly more affected than others.
- Regional asymmetries can be reduced not only with targeted fiscal support to SNGs but also with targeted income support to households. Income benefits to households can indirectly generate revenues for SNGs as these benefits are likely to be converted into household consumption and can be used to pay local taxes such as property taxation.
- The COVID-19 crisis might generate structural changes to the economy, which can bring the necessity to reform intergovernmental fiscal relations.

The role of intergovernmental relations to tackle COVID-19

A framework consisting of three pillars synthetises good practices related to fiscal federalism: 1) fiscal capacity; 2) delineation of responsibilities across levels of government; and 3) intergovernmental co-ordination. Figure 9.1, below, provides a quick summary of these challenges in the context of the COVID-19 pandemic (for more details on this framework see the first chapter).

Figure 9.1. Synthesising of challenges in intergovernmental relations to tackle COVID-19



Source: Forman, Dougherty and Blöchlinger (2020[3]).

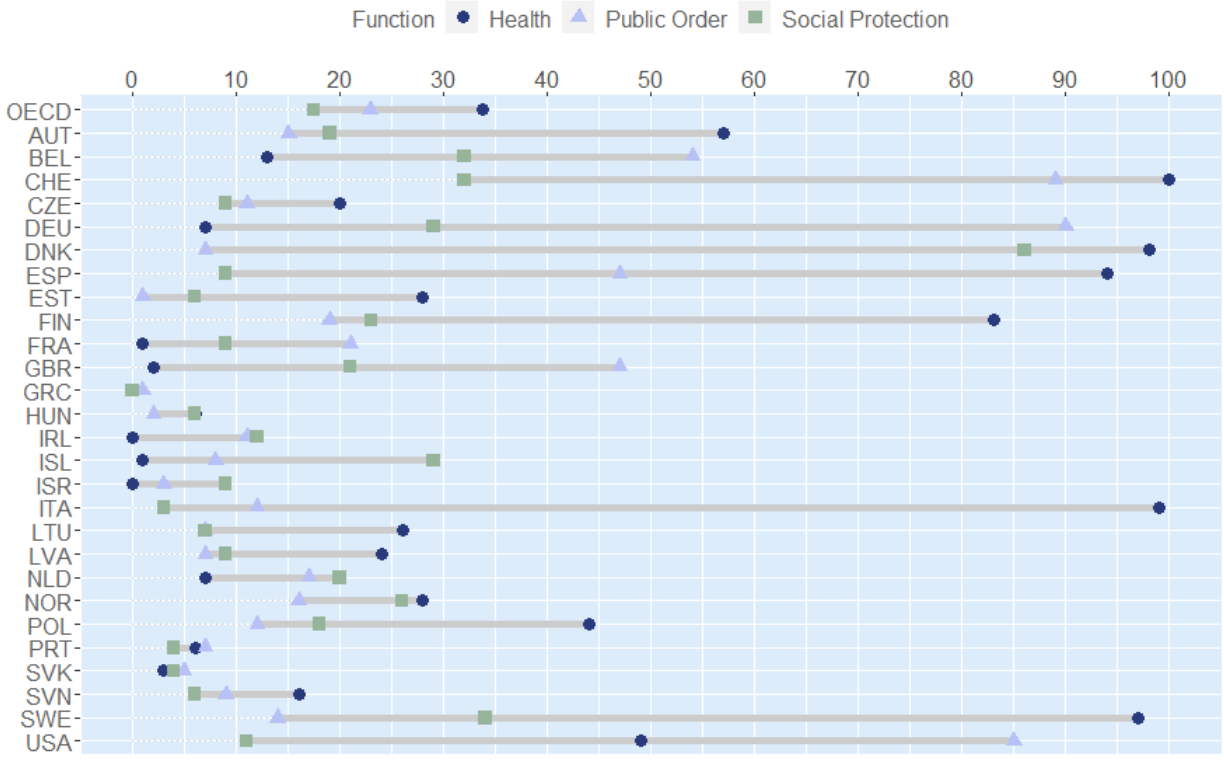
Challenges related to intergovernmental relations varied across countries

Challenges related to intergovernmental relations and practices vary across countries depending on the degree of subnational autonomy, scope of SNGs' responsibilities and characteristics of the existing intergovernmental relations framework, all of which are unique for each country. First, spending and revenue assignments vary widely across OECD countries (Forman, Dougherty and Blöchliger, 2020[3]), which drastically impact the roles of SNGs in tackling a pandemic. Second, the discretion that SNGs have on their tax policy differs by country (Dougherty, Harding and Reschovsky, 2019[4]), which leads to a varying degree of subnational dependency on central support. Third, each countries' intergovernmental transfer framework[1] has its own features, which greatly affects the funding and autonomy of SNGs. This is particularly relevant due to the fact that grants usually represent a substantial portion of SNGs revenues. Fourth, the intergovernmental co-ordination mechanisms in place before the crisis and/or established to be used in case of emergencies can greatly affect the measures adopted and their effectiveness.

In the context of the COVID-19 crisis, public services related to health, public order and safety, and social protection were especially[2] pressed by the pandemic as containment measures, income support and treatment of the ill have prominently involved these government functions. As of 2019, SNGs are, on average, responsible for 34%, 23% and 18% of the general government's expenditure on health, public order and safety and social protection, respectively (Figure 9.2).

In a survey of policy responses to the first wave of the pandemic, two challenges seemed to be more common in decentralised countries: overlapping activities between levels of government, and asymmetrical impacts or needs while financial compensation was more often reported as a challenge in centralised countries (OECD, 2020[5]). This suggests that countries face different challenges depending on the degree of (de)centralisation.

Figure 9.2. SNGs' expenditure as a percentage of those of general government on selected government functions



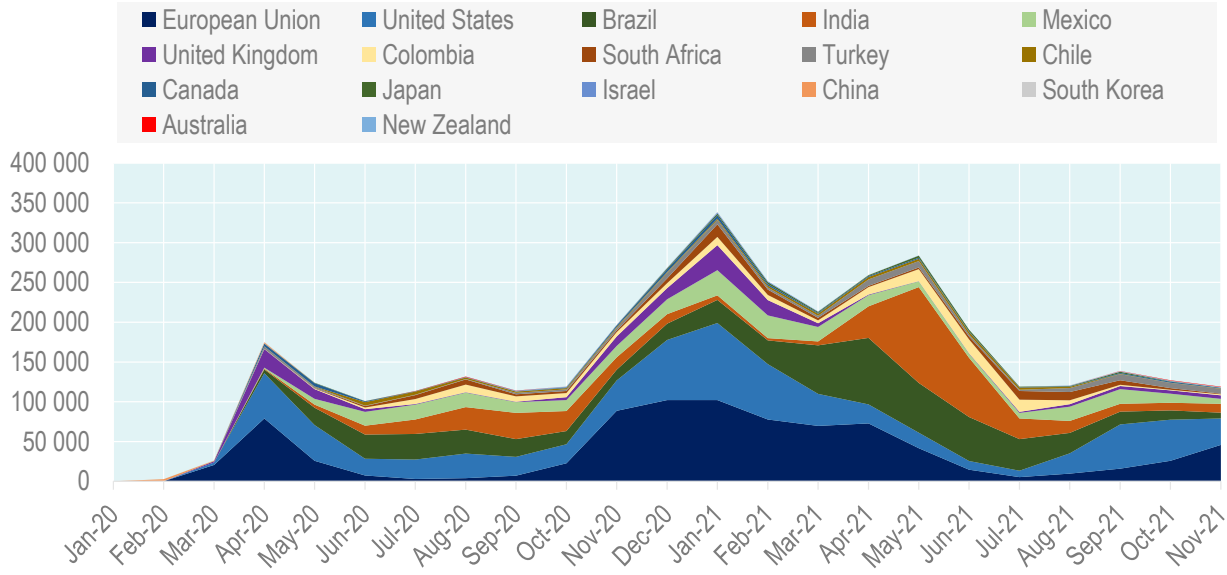
Note: Values of 2019 or closest year, unconsolidated.
Source: OECD System of National Accounts (COFOG).

StatLink https://stat.link/3u54ga

Challenges also varied over time with the different phases of the pandemic

It is common to divide pandemics and epidemics into waves of infections, which occur partly due to changes in human behaviour, government responses and knowledge of the virus over the course of an outbreak, generating a different dynamic for each wave (Maragakis, 2020[6]). Figure 9.3 shows wave patterns for the COVID-19 pandemic in OECD and partner countries.

Figure 9.3. Number of COVID-19 related deaths per month in OECD and partner countries



Note: Deaths reported through end-November 2021. Data were smoothed using a 7-day moving average. Wave timing differs across countries (and can even differ across regions in countries).
Source: Based on country time series data from *Our World in Data* and *John Hopkins University* (https://github.com/owid/covid-19-data/tree/master/public/data).

StatLink https://stat.link/l2uxwj

In this chapter, we divided the virus outbreak into three phases: emergency, resolution and recovery phases. In short, the emergency phases coincide with the first wave of the pandemic, the resolution phase with the second wave and the recovery phase represents the phase in which countries must focus to recover from the social and economic effects of the pandemic.

Emergency phase

Context of the emergency phase

The COVID-19 pandemic caught authorities by surprise in the first trimester of 2020 and forced authorities to make important decisions and take action under deep uncertainty. In a matter of months after the first reported cases at the end of 2019, the COVID-19 virus had spread from China across the globe.

At this early stage of the outbreak, little was known about the actual mortality rate of the virus, nor about the effectiveness of treatments and containment measures. There was a shortage of medical equipment, personnel, and space to diagnose, test and treat the voluminous number of ill people.

It was under this great uncertainty and lack of preparedness for such a crisis that, in order to protect citizens, governments quickly designed and implemented responses to the first wave of the outbreak. On 21 February 2020, the day that Italy reported its first COVID-19 related death, the Italian central government announced that public spaces were closed in ten Italian towns in northern Italy (Kantis, Kiernan

and Bardi, 2021[7]). Enforcement of severe lockdowns started to pop up everywhere around the globe, following Italian footsteps. Lack of capacity to diagnose, isolate and treat patients has led countries to employ measures to boost and optimise health system capacity by mobilising staff, medical supplies, and space through very creative means (OECD, 2020[8]).

Policies related to intergovernmental relations were designed and implemented under this same uncertainty and pressure.

Delineation of activities in the emergency phase

Responses' degree of centralisation varies in terms of timing, substance and process

Centralised responses consist of central authorities proposing policies through executive orders, legislation or regulation in a manner that the same policy applies to the whole country. Decentralised responses are a result of a multitude of policies designed and implemented by every jurisdiction based on their responsibilities as assigned by primary law or the constitution. In practice, it was observed that even in centralised responses central governments have often provided some degree of autonomy to SNGs with regard to the substance, process and/or timing of the measures.

It is worth noting that substance and timing of policies are, to some extent, interdependent. In other words, depending on the state of the outbreak in a given locality (i.e. timing), different measures (i.e. substance) are recommended to maximise containment while minimising social-economic impacts. Precisely, when the daily infection rate is: a) high, containment policies that reduce mobility are more likely to control the virus; b) low, test-and-trace policies in combination with mandatory use of masks and restrictions of large events offer a better alternative (Égert et al., 2020[9]). In the case of lockdown enforcement, case studies[3] of responses to the first wave showed that an adequate timing of lockdowns was essential to contain the virus, even more than the lockdown stringency (i.e. substance).

Both centralised and decentralised responses can be successful if levels of government co-ordinate themselves

Although centralised responses were twice as frequent as decentralised ones in a survey of policy responses to the first wave of the pandemic,[4] there are successful cases of both centralised and decentralised responses to the first wave of the crisis[5] (see Box 9.2). The COVID-19 pandemic has some elements that favour a centralised response and others that favour a decentralised one and, as a result, it is not trivial to determine the optimal degree of centralisation/decentralisation to tackle the crisis. We argue that intergovernmental co-ordination can make a centralised or decentralised responses successful.

On the one hand, centralised responses tend to generate more quick and homogenous responses, to generate economies of scope and scale, and to deal more effectively with regional spill-overs. Centralised responses also tend to facilitate accountability, since there is no room for levels of government to "pass the buck" to other levels. Furthermore, centralised responses can facilitate resource allocation since purchases of the necessary equipment (e.g. ventilators, personal protective equipment, tests, among others) are done on a larger scale and with centralised information, facilitating the transfers of these resources to the regions in need.

On the other hand, decentralised responses tend to deal more effectively with asymmetric impacts and preferences, and to create room for regional diffusion of innovative policies. This is especially relevant in a crisis in which containment policies have enormous costs that are asymmetrically distributed both across regions and socio-economic groups. For instance, regions whose economy depends on tourism were more vulnerable to lockdown enforcements; low-income households tend to suffer more economic and social costs related to, for instance, access to social protection and education. It is expected, therefore, that people's preferences vary widely across regions within the same country, which is a compelling point for a decentralised approach.[6]

Box 9.2. Centralised and decentralised responses to the first wave of the pandemic

The United States offers an example of an almost fully decentralised approach to tackle the first wave of the COVID-19 outbreak, with the federal government mainly providing additional funds through the CARES Act, Medicaid programmes and the Federal Reserve Bank (FED). During the COVID-19 crisis, the degree of US fiscal decentralisation became even more pronounced. Lower levels of government in the United States have had autonomy to impose stricter policies than those imposed by upper levels (i.e. autonomy to change the substance of the policy), to select the appropriate timing for implementation and to operationalise policy implementation. As a result, SNGs have varied significantly with regards to the policies implemented in terms of substance, timing and process. For instance, while northeastern states imposed relatively strict lockdowns, states more reliant on tourism, such as Texas and Florida, were hesitant to enforce strict lockdowns affecting their jurisdictions; similarly, governors in small, rural states such as South Dakota and Nebraska tended to take very limited action. Governors in the northeastern states (e.g. New York, New Jersey, Connecticut and Pennsylvania) acted early and more aggressively in the implementation of comprehensive restrictions across the states.

In South Africa, the COVID-19 pandemic has led the central government to centralise responses to the first wave of the outbreak, but not fully, potentially due to limitations in its operationalisation. At the initial phase of the crisis the central government has declared a national state of disaster, issued regulations that SNGs had to implement and monitored their implementation through their Department of Cooperative Governance. In addition, a very strict national-wide lockdown was centrally imposed. Nevertheless, since in South Africa SNGs are responsible for the management of hospitals and public schools, measures were operationalised by SNGs with central government oversight. In addition, SNGs were, after five weeks of a strict lockdown, allowed to adjust their responses in case the prevalence of inceptions was low in a jurisdiction. As a result, at the initial phase, South Africa's central government controlled the substance and timing of the responses. In a second phase, SNGs could vary the timing of their implementation. In both phases, the operationalisation of the responses was in the hands of SNGs.

In comparison to these other countries, France is a more centralised country. Healthcare expenditure is almost entirely centralised. It is not a surprise that the French response was, thus, very centralised (refer to Figure 9.2). From mid-March onwards, the central government announced and adopted a series of highly homogenous responses that entered into force throughout the entire country. Many of these measures were taken by overarching presidential Decrees. They involved lockdown enforcement, prohibition of gatherings and travel, eventually mandatory use of masks in public, among other measures. However, some local governments imposed more rigorous policies, such as Nice and Cannes, where wearing masks in public was mandated before the central government required it. France offers an example of a response to the first wave of the pandemic that was mostly centralised in terms of substance, process and timing.

Source: Cockerham and Crew (2020[10]) for the US case, Steytler (2020[11]) for the South African case and Buthe et al. (2020[12]) for the French case, as cited by de Biase and Dougherty (2021[13]).

State-of-emergency law were used, to a great extent, to centralise responsibilities

In virtually all countries, regardless of being federal or unitary, responsibilities and decision-making powers are distributed across levels of government by the constitution or by the primary law. The same constitution/law also commonly determines that, under extraordinary circumstances, some responsibilities might be centralised, with state-of-emergency laws or equivalent mechanisms. As a result, a centralised response can be the result of 1) a centralised assignment of responsibilities in ordinary times; or 2) a temporary assignment of powers to the central government as a result of an emergency mechanism that was triggered by an extraordinary event.

Box 9.3. Switzerland's referendum and Sweden's new state-of-emergency law

Switzerland's referendum

Switzerland is a very decentralised country, with Cantons highly autonomous. Nevertheless, in order to tackle the COVID-19 pandemic, a state-of-emergency was enacted, and Cantons' powers were centralised, which has led to a top-down and uniform implementation of containment measures across the country (Altherr, 2020[14]). Examples of nationwide measures taken by the Swiss government are restrictions of nonessential businesses, the closure of schools and quarantine measures. Gradual phase-out of these measures was also implemented with a high degree of uniformity across the country.

This approach did not please part of the population, which led a campaign over the prominent role of the central government in tackling the pandemic. This group argued that these measures can be applied without taking over a Canton's power and this centralisation may set a precedent for undemocratic measures in the future.

The Swiss democratic system allows people to challenge parliamentary decisions if more than 50 000 signatures are collected within 100 days following the approval of a law. In September 2020, this group collected the necessary number of signatures and forced the matter to be voted on in a referendum, which was held in June 2021.

As a result, Switzerland was the first country that had, through direct democracy, granted to its citizens a say over the legal basis for tackling the outbreak. The attempt to veto the Swiss government's anti-COVID policy nevertheless failed, with a majority of the public endorsing the policies implemented by the central government to tackle the pandemic.

Sweden's new state-of-emergency law

At the beginning of the pandemic, Swedish policy makers were reluctant to support strong restrictions on personal freedom and, as a result, the government could not legally enforce lockdowns. While neighbouring countries were adopting strict lockdown measures, Sweden has avoided such measures and followed a voluntary approach to virus containment. Nevertheless, with the highest number of cumulative deaths related to COVID-19 in Scandinavia during the first phase and with regions reaching the maximum intensive care capacity (Edwards, 2021[15]), the Swedish Parliament, in January 2021, eventually approved a type of state-of-emergency law, which expired at the end of September 2021.

The Swedish law allowed the government to take extraordinary measures to tackle the pandemic, such as limiting the number of people in shops, business, public places, among others and fining wrong doers. However, restrictions on gathering in public spaces could not be of such magnitude as to prevent people from moving around the country. In addition, restrictive measures had to be brought before the parliament within seven days so that it could repeal the measures if it so desired.

Source: Geiser (2021[16]); Hofverberg (2021[17]).

In the first case, the central government is constitutionally/legally in charge of most of the responsibilities related to tackling a health crisis, such as healthcare, public health, social protection, and public order enforcement (e.g. Greece, Hungary, Iceland, Slovakia, Portugal, among other countries in which SNGs have a low expenditure share of general government – see Figure 9.2). In this case, although SNGs can have relevant roles in policy making and operationalisation of policies to tackle a crisis, most of the decisions are defined by central authorities, as it is in ordinary times.

In the second case, in times of crisis, the legal/constitutional assignment of responsibilities might be temporarily centralised by the force of state-of-emergency laws or equivalent mechanism. A wide range of countries already had such laws in place prior to the crisis (e.g. Canada, Germany, Italy, Mexico, South Africa, Spain, Switzerland, among others) or passed a state-of-emergency law during the COVID-19 pandemic (e.g. Sweden). Nevertheless, not all of these countries that had a state-of-emergency law actually declared a state-of-emergency (e.g. Canada)[7] or have *de facto* centralised decision-making power after having declared such a state (e.g. Germany).[8] In Switzerland, a group of citizens has even handed in signatures to force a vote on the powers from the state-of-emergency (see Box 9.3).

Although state-of-emergency laws are an interesting solution to rapidly delineate activities across levels of government in times of crisis, since states-of-emergency are not commonly proclaimed, it is, unfortunately, common to have unclear legal statutes (e.g. Switzerland).[9] Another issue regards the fact that temporary centralisation can be challenging to pull off as management and governance procedures were designed considering the common division of responsibilities across levels of government.[10]

It is worth noting that, especially in times of crisis, there are some extraordinary powers/activities whose assignment was not clearly defined by the legislators (e.g. power to enforce lockdowns, to define what are essential services, among others) and, for these activities, the dividing line between the powers of each level of government allows for different interpretations and may lead to judicial disputes[11] (Hegele and Schnabel, 2021[18]). It is also common for the primary law or constitution to give residual power to one level of government, meaning that all activities that are not clearly defined by the law/constitution are of the responsibility of a specific level of government.[12]

Intergovernmental co-ordination in the emergency phase

Intergovernmental co-ordination concerns the harmonisation of actions taken by different levels of government and/or jurisdictions through communication, exchange of information and negotiation.[13] The opposite of co-ordinated action is unilateral action, in which each level of government/jurisdiction determines and implements policies without informing/consulting other jurisdictions/levels of government. Given that: 1) many levels of government are involved in service delivery;[14] 2) there is substantial overlap in the assignment of activities across levels of government; and 3) COVID-19 have regional spill-overs, co-ordination is crucial for each level of government and jurisdiction to focus on the activities that they are better prepared to do, reducing redundancy and improving consistency.

In the emergency phase of the crisis, the costs of un-coordinated action were enormous for multiple reasons. First, SNGs may engage in intergovernmental competition, leading to excessive purchases at high prices (OECD, 2020[19]). Second, lack of healthcare capacity was particularly prominent at the early stages of the crisis (OECD, 2020[20]), and, therefore, without intergovernmental co-ordination, access to resources was limited to the resources available locally, while intergovernmental co-ordination permits regions to access a greater pool of idle resources from other jurisdictions/regions.[15] Third, inconsistent or fragmented regulatory regimes may hinder the quick adoption of new products and procedures discovered/designed elsewhere. Fourth, lack of monitoring the national situation and regional benchmarking may allow service standards to slip, particularly when data are absent or inaccessible, which is precisely the case for health care, in which data governance is lagging behind other sectors (OECD, 2020[20]). Fifth, at the early stages of the crisis, procedures and protocols were mostly inexistent and, thus,

multiple levels of government were prone to giving conflicting information to the public and creating confusion and hindering policy accountability.

Therefore, intergovernmental co-ordination in the emergency phase was particularly important for: 1) increasing the pool of resources available to tackle an asymmetrical crisis within regions; 2) create economies of scale in the procurement of equipment; 3) communicate consistently with the public; and 4) promote diffusion of effective policies and procedures. Moreover, with intergovernmental co-ordination, decentralised responses can be made uniform when necessary[16] and centralised responses can better adapt to local needs, leading to more heterogeneity (Hegele and Schnabel, 2021[18]).

Countries have either created or re-oriented institutions to improve co-ordination

Countries have been using institutions to co-ordinate policy responses across levels of government and to monitor the development of the crisis (OECD, 2020[21]). These bodies have been holding regular meetings with authorities from multiple levels of government and, often, scientists and experts from various sectors. Some of these bodies were created with the sole purpose of handling emergencies (e.g. Chile, France), while in other cases existing structures were adapted to tackle this specific crisis (e.g. Belgium, Italy, Poland).[17] In addition to bringing SNGs into these bodies, some countries are also appointing co-ordinators from outside the centre of government, such as public health officials (e.g. France, Ireland, United States) or officials with a background in economic and trade issues (e.g. Colombia), and some involve scientists in the decision-making process.[18]

Although the scope of action of these bodies has often been substantial, involving the monitoring of the crisis and the provision of direct support and advice to heads of government and ministers regarding multiple policy areas (e.g. health, transport, economy, among others), there also have been intergovernmental co-ordination initiatives of more limited scope. Co-ordination arrangements related to procurement[19] and data sharing[20] were frequently made during the emergency phase of the crisis.

When co-ordination arrangements lead to a situation in which the executive branch of levels of government are involved in the implementation of a central programme, it can be said that the country is responding to the crisis using an executive federalism approach.[21] In this situation, central authorities from the executive branch, such as from key ministries and the president/prime minister, act as national leaders, guiding discussions about the responses. It is worth highlighting that for such an arrangement to work, it is necessary for authorities of different levels of government to agree on the policies, as the responsibilities of SNGs are not centralised as they are with state-of-emergency laws.

Lastly and more notably in large countries that have approached the crisis with a decentralised response, horizontal co-ordination arrangements were rapidly made between neighbouring jurisdictions to improve the consistency of the response and to deal with regional spill-overs. Factors that contributed to the rapid co-operation were: 1) the existence of horizontal co-operation arrangements prior to the crisis;[22] 2) geographical proximity; and 3) bipartisan co-ordination.[23]

In summary

Despite the existence of various vertical and horizontal co-ordination arrangements, an OECD survey on the impact of the COVID-19 crisis on regional and local governments found that co-ordination mechanisms have produced mixed results in managing the COVID-19 crisis, in the view of local and state governments. More specifically, around 10%, 11% and 15% of the respondents found co-ordination arrangements among: 1) the same level of government; 2) different levels of SNGs; and 3) between the central government and SNGs, respectively, to be ineffective or non-existent (OECD-CoR, 2020[22]). Therefore, despite the clear necessity and potential benefits of intergovernmental co-ordination, it is not trivial to make neither vertical nor horizontal effective intergovernmental co-ordination arrangements.

A consequence of the lack of effective intergovernmental co-ordination arrangements is the exacerbation of the flaws of a centralised or decentralised response. Centralisation without effective co-ordination can lead to homogenous deployment of containment measures across regions, even when the outbreak is localised. This situation can lead to an unnecessary economic cost as some regions did not need stringent measures in the first place.[24]

On the other hand, decentralisation without effective co-ordination can lead to a sub-optimal management of the resources, leaving the resources of some regions idle while other regions are having to deal with scarcity of beds, medical equipment, staff, among others. Responses that started un-coordinated can be better co-ordinated afterwards, leading to a successful response in a later stage of the crisis, as has happened to the United States that was severely hit by the first wave but introduced vaccines relatively fast in comparison to most other countries, despite its continental size.

Interestingly, pre-existing arrangements tended to lead to a quicker and more co-ordinated action in comparison to arrangements that were organised afterwards. Australia is an example of a country that implemented intergovernmental co-operation arrangements just before the COVID-19 crisis, in order to address the Australian bushfire season of 2020, leading to a better co-ordination during the COVID-19 pandemic (Downey and Myers, 2020[23]). Korea is another example, explored in more detail in Box 9.4.

Box 9.4. Korea's experience: learning from past mistakes

Korea was hit by multiple disasters throughout the last decades, such as the Middle East respiratory syndrome coronavirus (MERS-CoV) epidemic outbreak in 2015, the Sewol Ferry Disaster in 2014, the H1N1 pandemic influenza in 2009 and SARS in 2003. Notably, the Korean response to the MERS-CoV outbreak demonstrated significant shortcomings in its preparedness for public health emergencies. Korea was the most affected country in the world outside of the Middle East. The government and a number of medical institutions were criticised for, respectively, not disclosing relevant information to hospitals and citizens, and for discharging infected patients unaware of their situation.

Fortunately, most of these shortcomings were addressed throughout the last five years. Korea's government: 1) established a dedicated Office of Communications and communication guidelines for officials; 2) invested in public health emergency process; 3) created the Ministry of the Interior and Safety to co-ordinate and implement measures related to public safety, risk prevention and emergency preparedness, which are to some extent implemented at the local level while the central government controls most of the authority to determine and oversee the measures to be implemented.

As a result of these enhancements, Korea was able to flatten the contagion curve of the first wave without imposing strict lockdowns or substantially disrupting its economy. Korea was able to implement a test-and-trace strategy accompanied by the imposition of social distancing measures in the most heavily affected regions. Korea promptly 1) built screening centres; 2) developed a large-scale urban data gathering platform; 3) trained medical staff; and 4) engaged in holding official daily briefings as early as 30 January 2020. The rapid implementation of all these policies were likely possible because Korea had prepared its institutional structure and legislation prior to this crisis. Administrative barriers were, thus, diminished and debate regarding the policies to be taken were not as necessary as in other countries.

Source: OECD (2020[24]); de Biase and Dougherty (2021[13]).

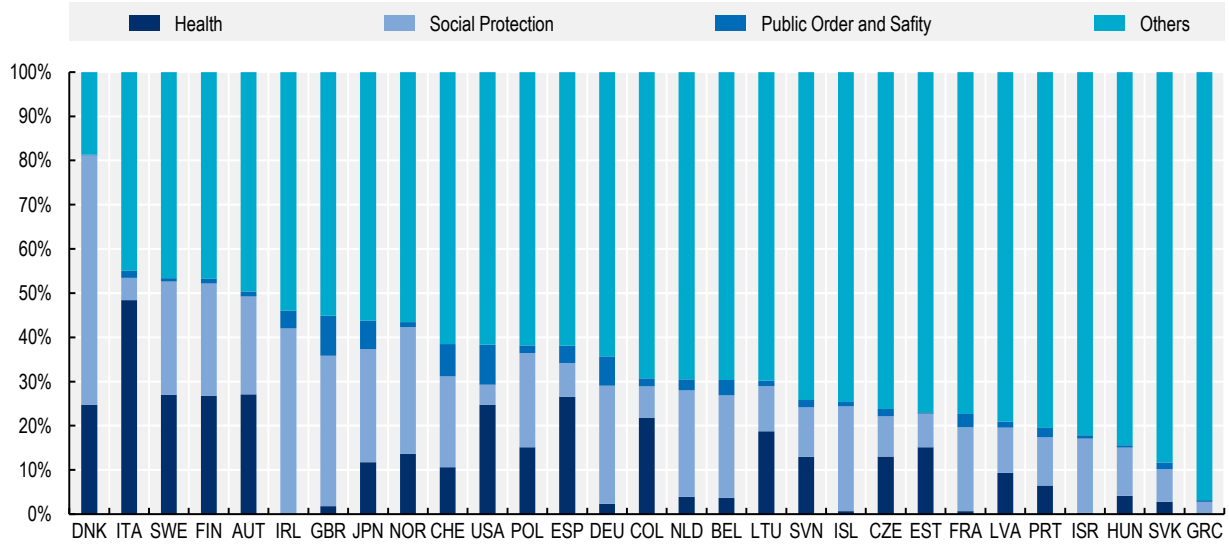
Fiscal capacity in the emergency phase

At the beginning of the crisis, SNGs were expected to suffer a heavy shock

At the beginning of the COVID-19 outbreak, in a survey of policy responses to the first wave of the pandemic (OECD, 2020[5]), countries revealed that they were expecting that the crisis would affect subnational governments' fiscal position significantly, with 17 out of 20 countries expecting SNGs' debts and deficits to increase as a result of the crisis.[25]

On the expenditure side, countries expected that SNGs would suffer severe consequences from the initial phase of virus propagation that pushes up health, public order and social protection spending. Since these functions represent a significant share of SNGs budget (spending related to these government functions vary across countries from 3% to 81% and represent on average 34% of all SNGs budget – Figure 9.4), even marginal increases were expected to have a drastic impact on subnational budgets.

Figure 9.4. Share of health, public order and social protection expenditures for SNGs

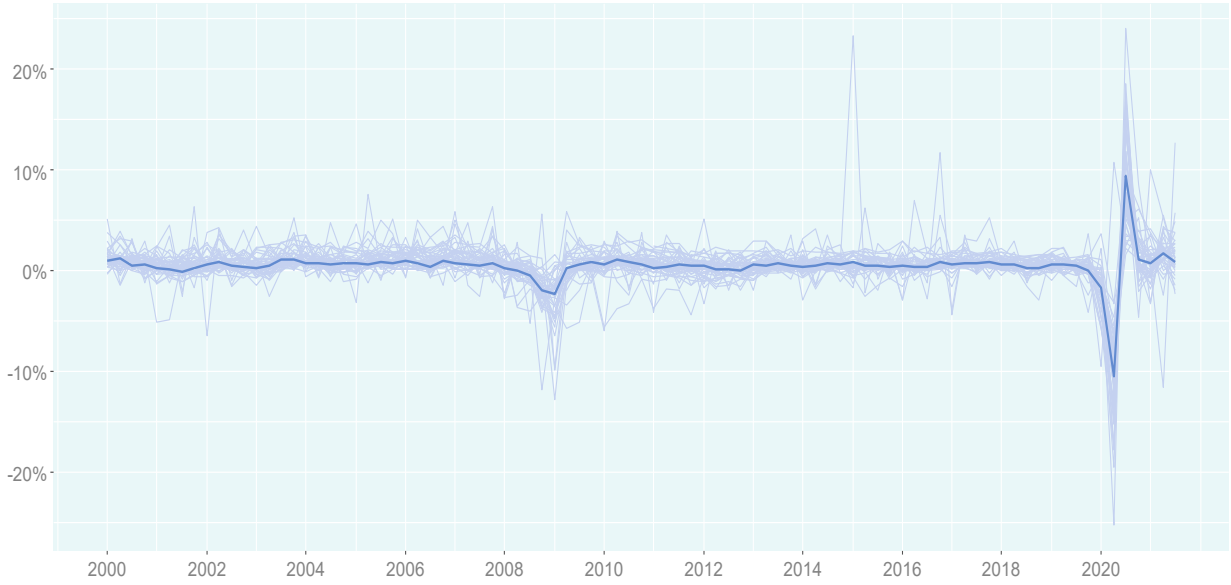


Note: Values of 2019 or closest year, unconsolidated.
Source: OECD System of National Accounts (COFOG).

StatLink https://stat.link/2o54ts

On the revenue side, countries expected that SNGs would suffer a fall in revenues due to the weakening of economic activity and to tax policy changes. Regarding the former, expectations were dramatic, with preliminary indicators of the economic activity suggesting that the Global Financial Crisis was a relatively small crisis in comparison to the COVID-19 crisis (the drop in GDP in the first two quarters of 2020 was more acute than the drop in 2009 – see Figure 9.5). Regarding the latter, countries have given numerous tax benefits/cuts/deferrals to business and households in order to minimise liquidity and solvency problems.[26]

Figure 9.5. Quarterly GDP growth rate in OECD countries



Note: Each line represents a country. The bold line represents the OECD average. GDP growth rate based on seasonally adjusted volume data, percentage change from previous quarter.
Source: OECD System of National Accounts.

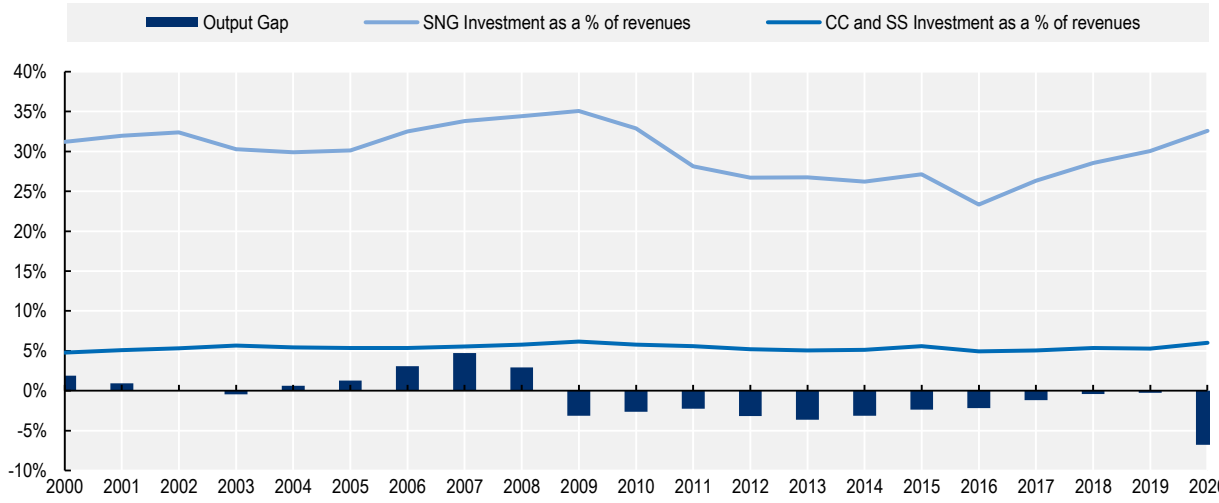
StatLink https://stat.link/1cwbid

SNGs have less room to manoeuvre and the shock could hinder their action

This "scissor effect" of increasing expenditures related to the pandemic and decreasing revenues as a result of a recession cannot be easily offset with either a reduction in expenditures related to other public services nor an increase in revenues as a result of a exogenous changes in tax policy because 1) a substantial portion of SNGs expenditures is either mandatory or regards essential services (e.g. education, health, public safety); and 2) SNGs depend on intergovernmental transfers and have limited autonomy to change tax policies (Dougherty, Harding and Reschovsky, 2019[4]). Therefore, fiscal balances were expected to deteriorate.

SNGs have less room to manoeuvre than central governments and, therefore, they usually react differently to shocks, usually in a more pro-cyclical manner, especially in the recovery phase of the crisis (Figure 9.6). First, SNGs cannot easily roll-up debt nor adjust their budgets to deal with acute shocks, which makes them more vulnerable to liquidity crises than central governments. More specifically, SNGs face borrowing limitations since subnational bond markets are usually less developed and illiquid than national bond markets, while there are borrowing rules that forbid subnational borrowing under some conditions.[27] Second, SNGs fiscal policies are restricted by fiscal rules.[28] Most OECD and partner countries impose budget balance rules (i.e. balanced budget, balanced current budget or a deficit target approaching zero) and/or expenditure limits to SNGs (Vammalle et al., 2020[25]). The restrictive nature of fiscal rules triggers concerns about pro-cyclicality and, particularly in the context of COVID-19, could limit the room for SNGs to carry out the necessary expenditure during the health crisis.

Figure 9.6. Pro-cyclical fiscal policy at subnational level: SNG investment usually fluctuate more than central governments in times of crisis



Note: Gross capital formation is used as a proxy for investment (GP5P) and is presented as a percentage of consolidated revenues of the respective level of government. CG and SS refer to central government and social security, respectively. Note that from 2010 onwards, after the peak of the crisis, investment started to drop with a one-year lag.
Source: Calculations based on the OECD Fiscal Decentralisation and National Accounts databases.

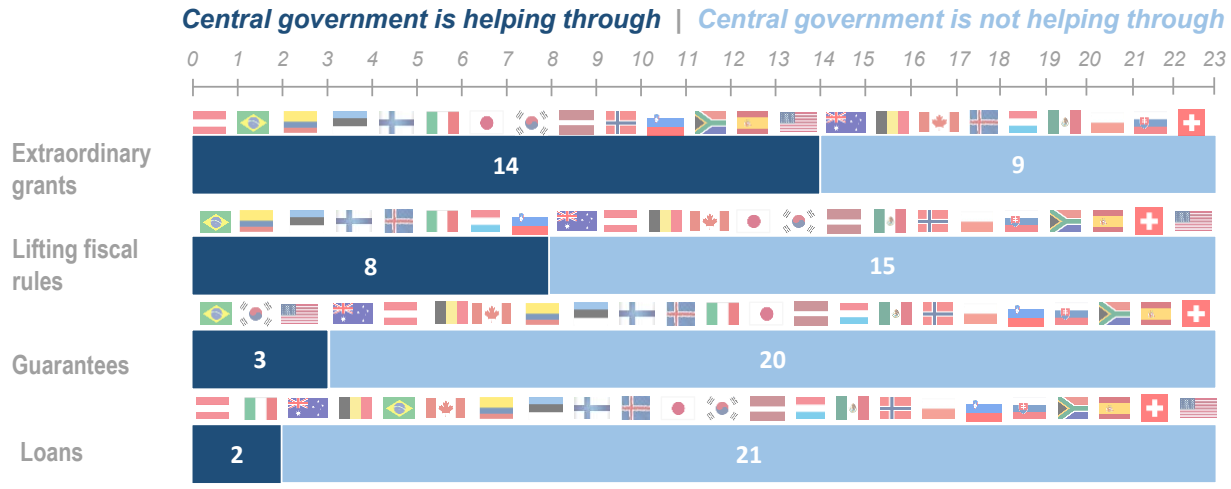
StatLink https://stat.link/jylbdu

Central governments have stepped in so as to level SNGs' fiscal capacity

Central governments and central banks stepped in to boost SNGs' fiscal capacity so that they could spend on COVID-19 related programmes and avoid heavily pro-cyclical fiscal policy at the subnational level. Figure 9.7 shows that the most common response from central governments at the emergency phase was providing extraordinary grants, lifting fiscal rules,[29] and providing additional loans and guarantees to SNGs (OECD, 2020[5]). These extra resources are provided by the central government mostly with no conditions attached[30] but with additional accountability requirements.

The criteria to define the amount of funds transferred has varied across countries. In some countries central governments have been providing a fixed amount to SNGs, which was defined in advance based on an expectation of decrease in subnational revenues and increase in expenditures. In other cases, countries have been compensating revenue reductions caused by tax relief measures or by reductions in tax revenues due to the economic slowdown.

Figure 9.7. Measures employed by central governments to improve subnational fiscal capacity in the emergency phase



Source: Based on the COVID-19 Rapid Survey held by the Network in June 2020 (OECD, 2020[5]).

Central support is not risk-free and can lead to moral hazard if ill-designed

Although it is too soon to assess the impact of central support on SNGs policies and fiscal instances in the context of COVID-19, it is important to raise potential risks involving fiscal support to SNGs. In principle, effective fiscal support is based on a careful analysis of SNGs needs, designed in a manner that minimises moral hazard and considers SNGs' autonomy and regional equity implications (OECD, 2020[5]).

First, depending on the rules under which the grants are provided, they may influence the policies implemented by SNGs.[31] Second, if central governments frequently support SNGs in economic downturns through intergovernmental grants, SNGs might not have the incentive to maintain a resilient fiscal structure and may export the costs of policies to the central government. Third, depending on the rules under which grants are provided, they may generate undesired regional inequalities through the provision of more funds to some regions at the expense of others and since financial needs are not policy neutral (i.e. the financial needs of SNGs depend on their own past policy choices), these equity issues are very difficult to be addressed in a manner that satisfies all parties involved.

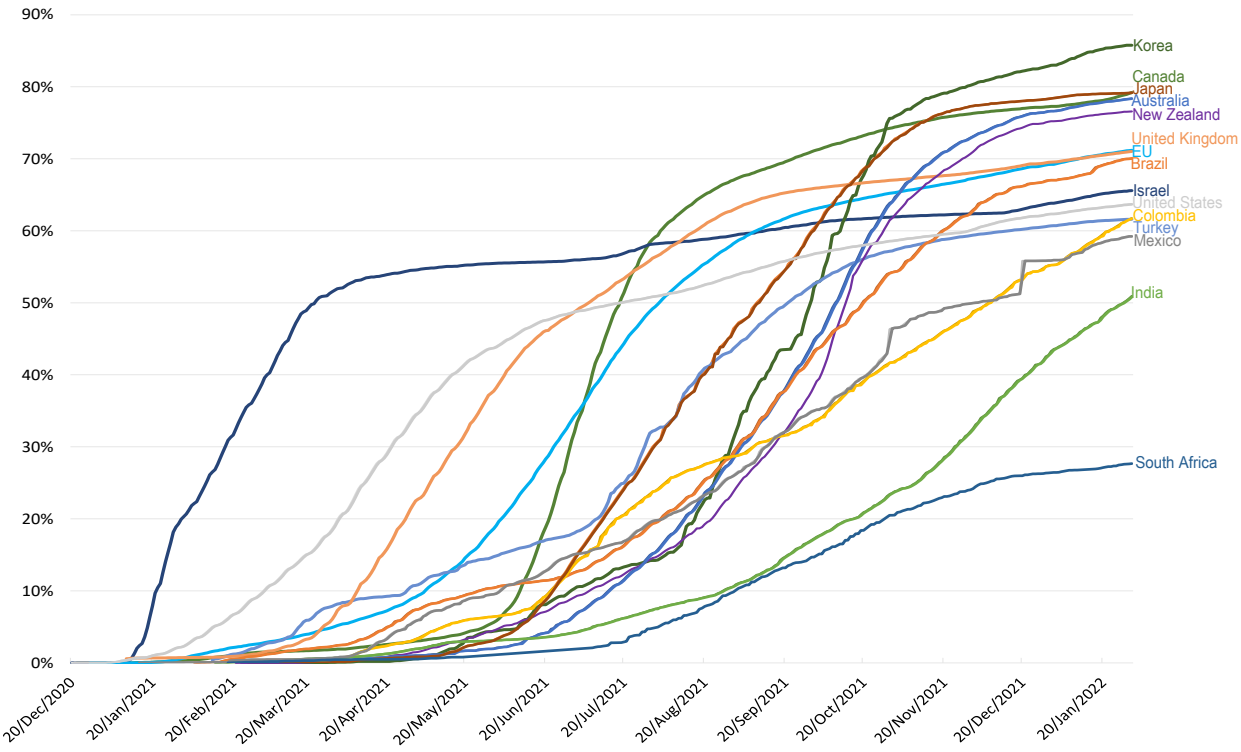
Resolution phase

Context of the resolution phase

One year after the start of the pandemic, uncertainty has been drastically reduced. On the economic side, indicators suggested a recovery quicker than expected. The recovery has formed a "square root shape" as envisioned by forecasters as early as April 2020 (Lehner, 2020[26]). This shape contrasts heavily with the "U shape" of previous crises for which the recovery was slower (see Figure 9.5, which depicts the shape of the COVID-19 and the Global Financial Crisis). There are at least two reasons that explain the relatively rapid recovery: 1) the underlying force of the recession is a health crisis, which contrasts to an investment bust or a financial crisis that comes with an overhang of excess investment to work off, which delays the onset of recovery; and 2) the rapid and decisive monetary and fiscal stimulus contained a possible contagion of household and firm bankruptcies that could have led to structural damage (Carlsson-Szlezak, Swartz and Reeves, 2020[27]).

On the public health side, there was a significant decrease in case fatality rates in comparison to the peak of the first wave of the crisis.[32] As a result of an unprecedented action of the private sector and governments, multiple effective vaccines have been developed and administered across countries, with the first mass vaccination programme starting in early December 2020 (WHO, 2021[28]). Although vaccination started at a slow pace in some OECD and partner countries, in less than a year and a half from the start of the pandemic, multiple countries were able to fully vaccinate the majority of their populations, an unprecedented achievement (Figure 9.8). This is crucial, as vaccination is regarded as the sole secure path to herd immunity, which can be achieved when a substantial portion of the population is vaccinated[33] (WHO, 2020[29]).

Figure 9.8. Share of population fully vaccinated against COVID-19 in OECD and partner countries



Note: Total number of people who received all doses prescribed by the initial vaccination protocol divided by the total population of the country. EU countries were clustered in order to improve readability.
Source: Our World in Data (raw data comes from COVID-19 Data Repository at Johns Hopkins University).

StatLink https://stat.link/vbcpdw

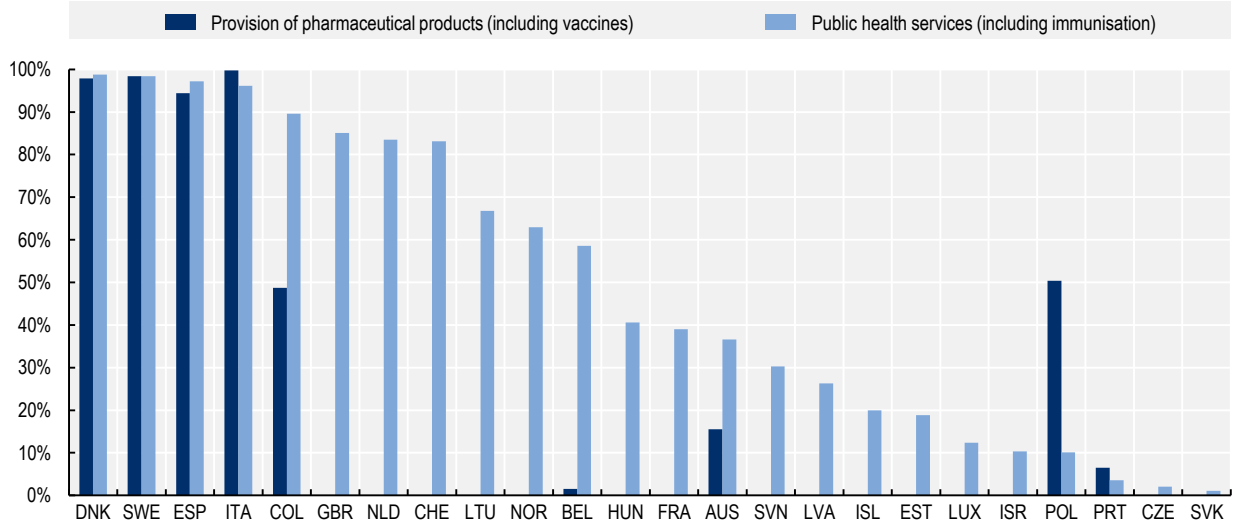
Vaccination programmes

OECD countries have had a historic success with the introduction of vaccines in less than one year from the start of the outbreak. As supply was limited when vaccines were introduced, OECD countries focused on prioritising 1) vulnerable populations for vaccination, such as elderly, people with pre-existing conditions and those more exposed to the virus, such as health care workers; or 2) the use of vaccines to reduce transmission of the virus in a way to contain its spread and the emergence of new strains (OECD, 2021[30]).The administration of vaccines involves multiple tasks whose responsibility is assigned to different levels of government such as funding its development and production (in some cases), procurement, distribution and application. In ordinary times, the central government is often the level of government

responsible for vaccine procurement, with SNGs having a crucial role in the administration of immunisation programmes (Figure 9.9).

It is worth noting that expenditure on public health services, which includes immunisation programmes, tends to be more decentralised than healthcare in OECD countries (de Biase and Dougherty, 2021[13]) and, therefore, the operationalisation of vaccination programmes has involved SNGs more than other health programmes aimed at tackling COVID-19.

Figure 9.9. SNGs' expenditure as a percentage of general government's on government functions related to vaccination



Note: Values of 2019.
Source: OECD System of National Accounts (COFOG).

StatLink https://stat.link/gyfbhq

In the context of COVID-19, the delineation of activity across levels of government related to vaccination has been kept roughly the same, with a tendency for more centralisation, notably regarding procurement in the European Union.[34] Therefore, in most cases central or supra-national governments are responsible for the procurement while SNGs are engaged in administering the doses to the local population,[35] with, in some cases, financial support from the central government to compensate the costs arising from the vaccination campaign, staff and equipment. In some countries, SNGs can establish their own vaccination programme, while in others they must follow central guidelines related to the prioritisation of specific groups.[36] Despite this central role of SNGs, regional disparities in accessing COVID-19 vaccines have mostly been modest, and primarily a result of the asymmetric distribution of vulnerable populations (OECD, 2021[31]).

Democracy and COVID-19

One key benefit of federalism is the distribution of political power across different actors, which allows for decentralised decision making that can more easily take into account local preferences. Both outcomes contribute to the enhancement of democracy, freedom of citizens (von Hayek, 1960[1]) and to maximise aggregate welfare (Oates, 1972[2]). Naturally, this benefit can only be fully reaped when elections are being held in all levels of government in a legitimate manner.

The COVID-19 pandemic has not only been a threat to the well-being of citizens but also to the democratic health of elections. Political campaigns and elections involve large gatherings of people and could potentially aggravate the dissemination of the disease. Higher health-risk voters, like the elderly, may decide to abstain from voting to avoid running the risk of being infected. This could result in selective participation which may decrease the legitimacy of people elected and could even question the democratic system. Therefore, ideally, the measures implemented to prevent the spread of the virus should not hinder the democratic process, whether by limiting electoral campaigns or by imposing measures for the elections (Council of Europe, 2020[32]).

Measures were taken to contain the virus while having elections

During the first wave of the COVID-19 pandemic, about one-third of OECD countries decided to postpone local elections for public health reasons. However, most governments authorised elections again with a delay, taking place either a few weeks late, as in Canada or as much as a year late as in Australia or the United Kingdom. One of the main concerns for authorities was to make sure that the voter turnover did not decrease because of fear of contracting the virus at polling stations or due to a confusion as to where and how to vote. In 2020, elections in some countries had lower turnouts compared to the previous election years, with the largest drop of 15%, while others recorded higher turnouts than before (Maizland, 2020[33]).

To prevent contamination and provide safe in-person voting, most countries enforced sanitary measures, notably masks and social distancing (Asplund et al., 2021[34]). Staggering voting hours reduced the number of people who could vote at one time. Moreover, to reduce crowding on election days, some countries increased the number or the size of polling stations, extended their working hours or extended the election day over several days. Early voting allowed citizens to vote before the election day. Depending on the country, the period for early voting can be available for all voters or only for specific categories. Eventually, some countries even allowed voters in quarantine or who had tested positive for COVID-19 to cast their vote during designated times on election day.

Many jurisdictions decided to switch to special voting arrangements (SVA), allowing higher risk groups to vote without having to be present at the polling stations. Certain jurisdictions encouraged voters to vote by mail whereby the ballot is delivered to the voter, who then returns it completed, before a deadline. Another SVA was to expand proxy voting, which is a SVA where a voter authorises another person to cast their vote for them. For some, proxy representatives were allowed to vote on the behalf of coronavirus patients and those in isolation. Finally, home-based, and institutional-based voting arrangements, which are SVA where a voter can cast the ballot from its current place of residence, were widely used in several countries.

One option, which was not widely used during the pandemic, is electronic voting (e-voting), which is voting that uses digital means to either aid or take care of casting votes, can be relevant in case of outbreaks such as the COVID-19 crisis. Many countries are moving to allow parliaments and subnational councils to debate and vote online (de Mello and Ter-Minassian, 2020[35]). However, e-voting raises a host of technical challenges, first, if a large part of the population does not have access to the Internet, or does not know how to use electronic devices, then governments have to ensure data protection, transparency and cyber-security. In the end, trust is essential for introducing digital solutions in elections. That is why the use of technology needs to be accompanied by national or supranational guidelines regarding the use of technical solutions and procedures, which ideally should cover proxy votes, testing, auditing and public access (Council of Europe, 2020[32])

Limitations imposed on political campaigns

Local electoral campaigns are the key components of the democratic process. However, campaigns often involve large gatherings, raising the risks of COVID-19 transmission. There have been ongoing debates as to whether electoral campaigns should be restricted to protect public health. Countries implemented measures from limiting the participants attending public gatherings to bans on in-person political events.

Door-to-door campaigns were often still allowed with restrictions on the number of people per group, the obligation to wear masks and recommendations on the duration of the events. Measures such as temperature checks, sanitation of indoor venues, a limited time duration during gatherings and sanitisation of microphones were also implemented.

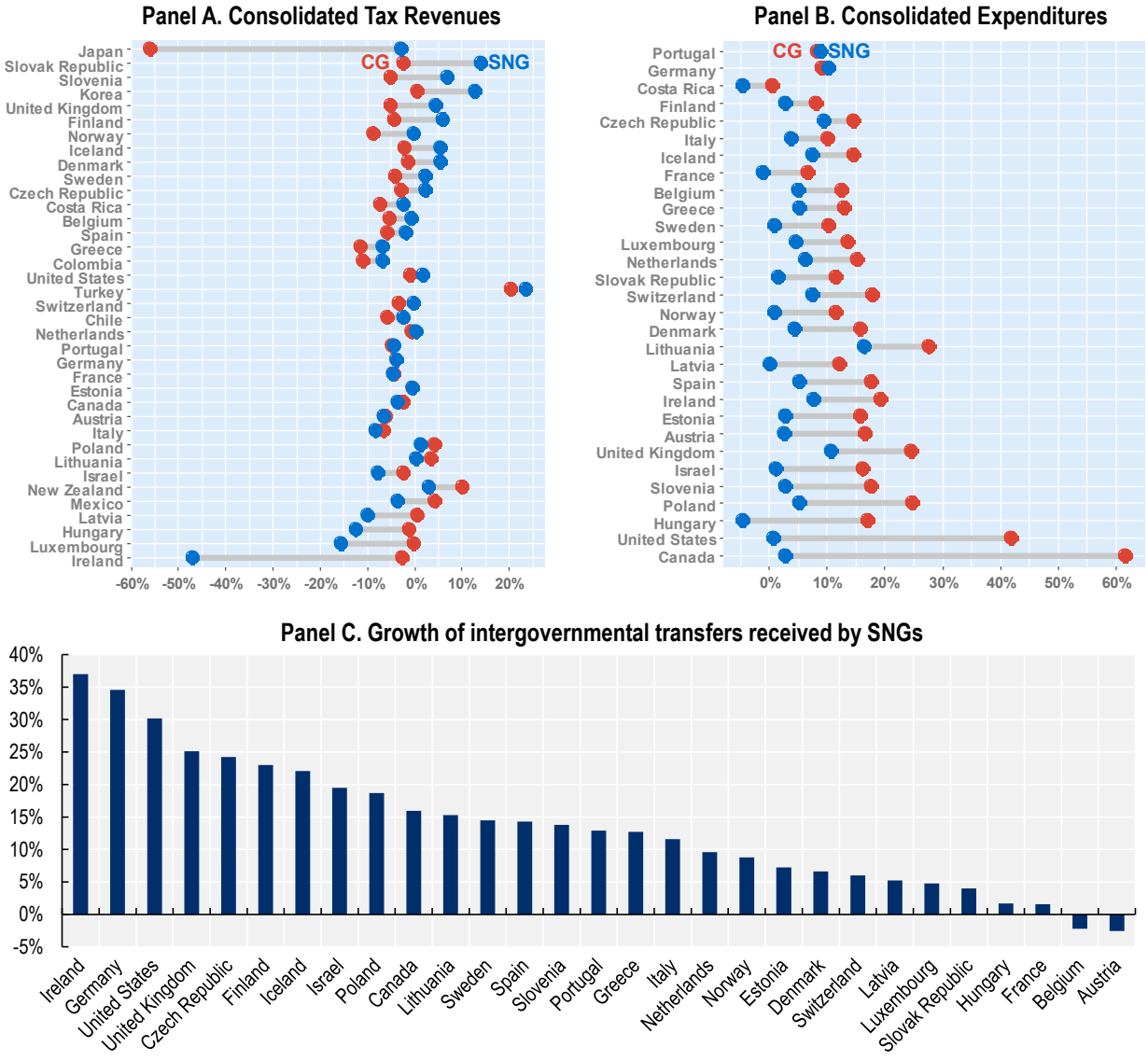
However, the most effective way of reducing the spread of virus was campaigning through online platforms, social media or non-digital mechanisms. Online remote campaigns allowed candidates and political parties to communicate virtually their ideas and their programme of reforms. For example, in the United States, both parties used social media and held party conventions online (Sullivan, 2020[36]). Non-digital mechanisms, such as short message service, telemarketing, postal mailing, TV, newspaper and radio talks were also largely used, especially in countries where part of the population did not have access to the Internet. Nonetheless, restrictions were not always closely monitored – face masks were not always used, and large-scale in-person rallies had sometimes gone ahead despite government restrictions in several countries (OSCE, 2020[37]).

Fortunately, even during the COVID-19 pandemic, virtually all OECD countries were able to hold central, state and local elections. In order to minimise election-related contaminations, countries put in place different measures, concerning electoral campaigns and the elections itself to avoid the spread of COVID-19 among the population and to reassure the population.

Fiscal capacity in the resolution phase: asymmetries across levels of government and regions

Figure 9.10, below, illustrates the fiscal situation of different levels of government, suggesting that central governments' finances suffered more than those of SNGs in 2020 in most OECD countries.[37] In this group of countries, the median decrease for SNGs' tax revenues was 0.6% while central governments' tax revenues suffered a median decrease of 2.8% (Panel A). On the expenditure side, SNGs' and central governments' median consolidated expenditure growth was of 4.1% and 15.0%, respectively (Panel B). Finally, Panel C shows the substantial increase in intergovernmental grants in 2020 – which the average and median value are around 14% and represent, on average, 47% of their total revenues (see circles in Figure 9.12, Panel B), more than offsetting reductions in revenues and increases in expenditures for some OECD countries.

Figure 9.10. Growth of revenues and expenditures of different levels of government (2019 to 2020)



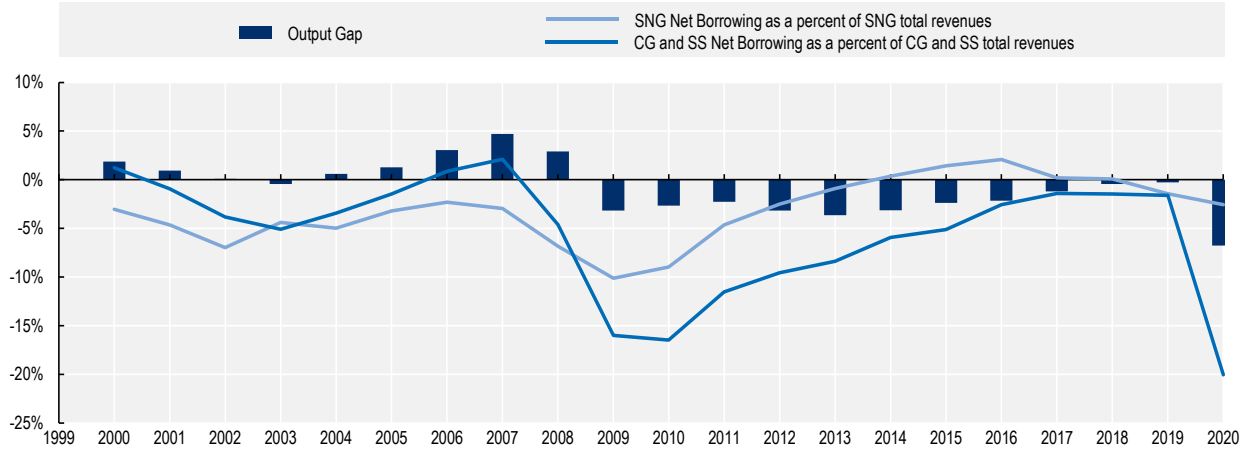
Note: Consolidated changes in tax revenues, expenditures and intergovernmental transfers from 2019 to 2020.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/ouqvf2

These asymmetries across levels of government and regions can be explained by the differences in tax mixes and expenditure assignments

Crises commonly hit levels of government asymmetrically, with the fiscal stance of central governments being more heavily affected than SNGs (Figure 9.11). That was precisely what happened in 2020 – on average, central governments experienced a fiscal deficit of 20% of their revenues while at the subnational level the average fiscal deficit was of 2.5% of SNGs' revenues. This asymmetry can be attributed to structural and non-structural disparities.

Figure 9.11. Central governments' fiscal balances fluctuate more and are more affected by crises than SNGs'



Note: Consolidated revenues and fiscal balances. CG and SS refer to central government and social security, respectively.
Source: OECD Fiscal Decentralisation database.

StatLink https://stat.link/g6anme

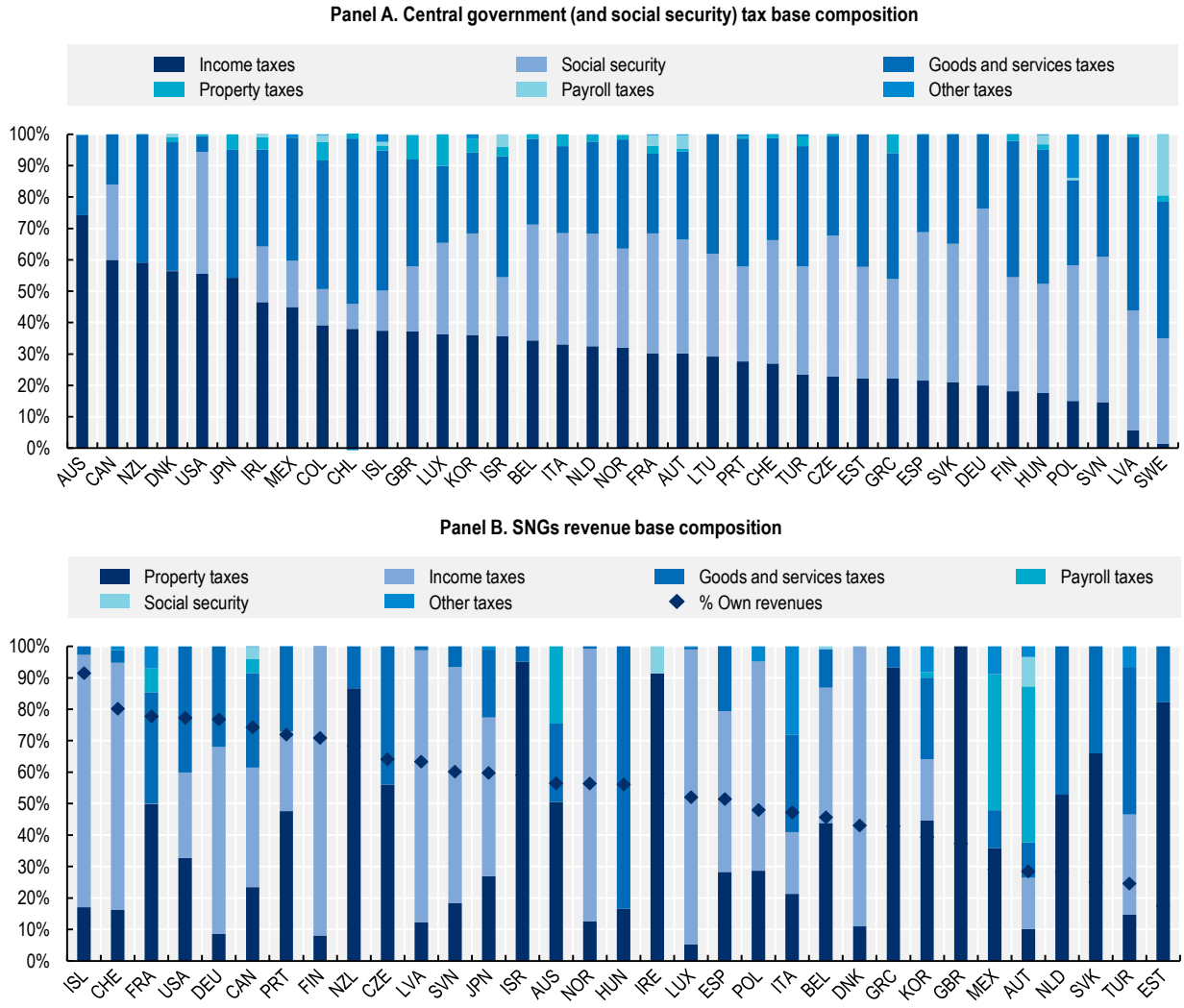
First, in times of crisis, it is common for central governments to adopt a more expansionary fiscal policy, as they have more access to financial markets and are not restricted to borrowing constraints nor fiscal rules as SNGs are. In addition, central governments often support SNGs in these periods in order to minimise a counter-cyclical policy from the latter (refer to Figure 9.6, which shows the tendency of SNGs to reduce investments in times of crisis, leading to a pro-cyclical policy at the subnational level).

Second, structurally, each level of government has a different composition of revenues and expenditures, with crises affecting sectors, tax bases and types of expenditures unevenly. Notably, central governments are typically in charge of the majority of the social protection programmes (refer to Figure 9.2), which have strong anti-cyclical behaviour.

With regard to revenues, not only does a substantial portion of SNGs' revenues comes from upper levels of government (refer to diamonds in Figure 9.12, panel B) but also the tax mixes of SNGs' own revenues differ significantly from those of the central government. There are constraints on the types of taxes that are collected at the subnational level and, as a result, SNGs' tax mix tends to be less diversified than those of the central government. In a very simplified manner, taxes levied on mobile tax bases, such as liquid assets or some taxes on business, can be avoided by moving assets or the business to jurisdictions with a lower tax rate and/or more tax benefits, which could also create a race to the bottom effect.

SNGs tend to rely on property taxes (on average 40% of their tax revenues), income taxes (34%), and good and service taxes (19%) in contrast to central governments, which rely more on good and service taxes (35%), income taxes (32%) and social security contributions (29%), who rarely make use of property taxes (2%). In terms of property taxes, SNGs tend to rely on recurrent taxes on immovable property (on average 82% of their property tax revenues) while central governments' property tax revenues are constituted of the taxation of financial and capital transactions (on average 53% of their property tax revenues), estate, inheritance and gifts (17%), and net wealth (11%). Regarding income taxes, SNGs tend to rely more on personal income taxes (on average 81% of their income tax revenues) while central governments have a more balanced reliance between personal (67%) and corporate income tax (33%). Figure 9.12 summarises this information.

Figure 9.12. Revenue composition of different levels of government



Note: Values of 2019 or closest year. The denominator of the ratio for the bars is total taxes while the denominator for the own revenues is total revenues.
Source: OECD Revenue Statistics and OECD Fiscal Decentralisation database.

StatLink https://stat.link/904mtj

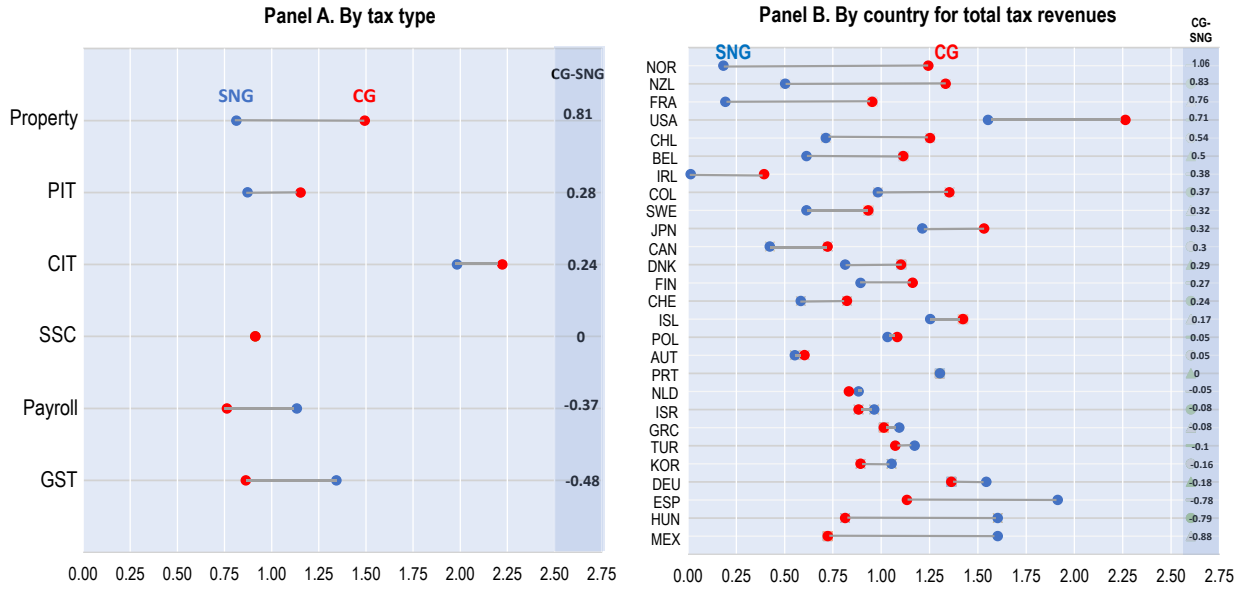
This clear difference between SNGs' and central governments' tax mixes affects their vulnerability to shocks on two fronts. First, the sensitivity of tax revenues to downswings differs, with some taxes being more heavily affected than others. Second, in order to tackle the COVID-19 crisis, at least in a first moment, tax packages aimed at supporting households and businesses affected more central governments' tax revenues, damaging central governments the most. It is worth noting, though, that in the next years this situation might shift as 1) in some countries grants' value are based on tax revenues from the previous year, affecting SNGs with a lag; and 2) central governments that resorted to deferrals will receive these taxes with a lag.

SNGs' tax mixes tend to be less elastic to downswings than those of the central government in the short-term

The sensitivity of tax revenues to changes in economic activity is commonly captured by forecasters through the use of short-term[38] tax elasticity and/or tax buoyancy. The former controls for discretionary tax changes, whereas the latter does not.[39]

Interesting conclusions with regard to the short-term responses of tax revenues can be drawn based on Figure 9.12 (above) and Figure 9.13 (below): 1) property taxes tend to be significantly less buoyant at the subnational level, probably because SNGs rely more on recurrent taxes on immovable property which has more stable tax base in comparison to other property taxes; 2) SNGs' income tax revenues tend to be less buoyant than central governments; 3) although SNGs' payroll tax revenues are slightly more buoyant than central governments' revenues with the same tax, SNGs rarely rely substantially on this type of tax; 4) goods and services taxes are the only type of tax that substantially affect SNGs finances and that are more buoyant in the short-run at the subnational level; and 5) the short-run buoyancy for total tax revenues is, in most cases, higher for central governments in comparison to subnational governments. As a result, SNGs' tax revenues are likely to be less affected by downswings than central governments' tax revenues.[40]

Figure 9.13. Comparison of central government and SNGs short-term tax buoyancies in times of crisis



Note: General: PIT, CIT, SSC and GST stand for personal income tax, corporate income tax, social security contributions and goods and service tax, respectively. The dark-blue column shows the difference of the buoyancies between the central government (CG) and SNGs. Buoyancies were calculated using an error correction model with a dummy for negative GDP growth and panel data from 1990 to 2019. Negative and high buoyancies (higher than 3) were removed for visualisation purposes. There is no country in which SNGs rely substantially on SSC and, therefore, only the buoyancy for the CG is shown. Panel-A: Buoyancy for each type of tax was computed using the mean group estimator. Panel-B: Individual short-run buoyancy for each country.
Source: Dougherty and de Biase (2021[38]).

StatLink https://stat.link/qr3efh

Tax measures to support business and households tend to affect central government more than SNGs

Not only SNGs' tax mixes are less sensitive to downswings but also in economic crises the central government tends to provide more support through the tax system. To tackle the COVID-19 crisis, the most common tax measures employed by OECD countries were: value added tax (VAT) payment deferrals (81%), corporate income tax deferrals (73%), tax incentives for investment (e.g. through accelerated depreciation of investments, enhanced deduction, tax credit, among others) (65%), enhanced personal income tax allowances and credits (59%), enhanced loss carry-back provisions (41%), VAT accelerated refunds (41%) and VAT reductions (35%) (OECD, 2021[39]). In contrast, relatively few governments introduced changes to property taxes over the last year, which is the most important source of tax revenues for SNGs, and those that did often targeted at severely affected businesses, such as businesses that registered a significant fall in revenues or that that suffered the most significant restrictions on activity.[41]

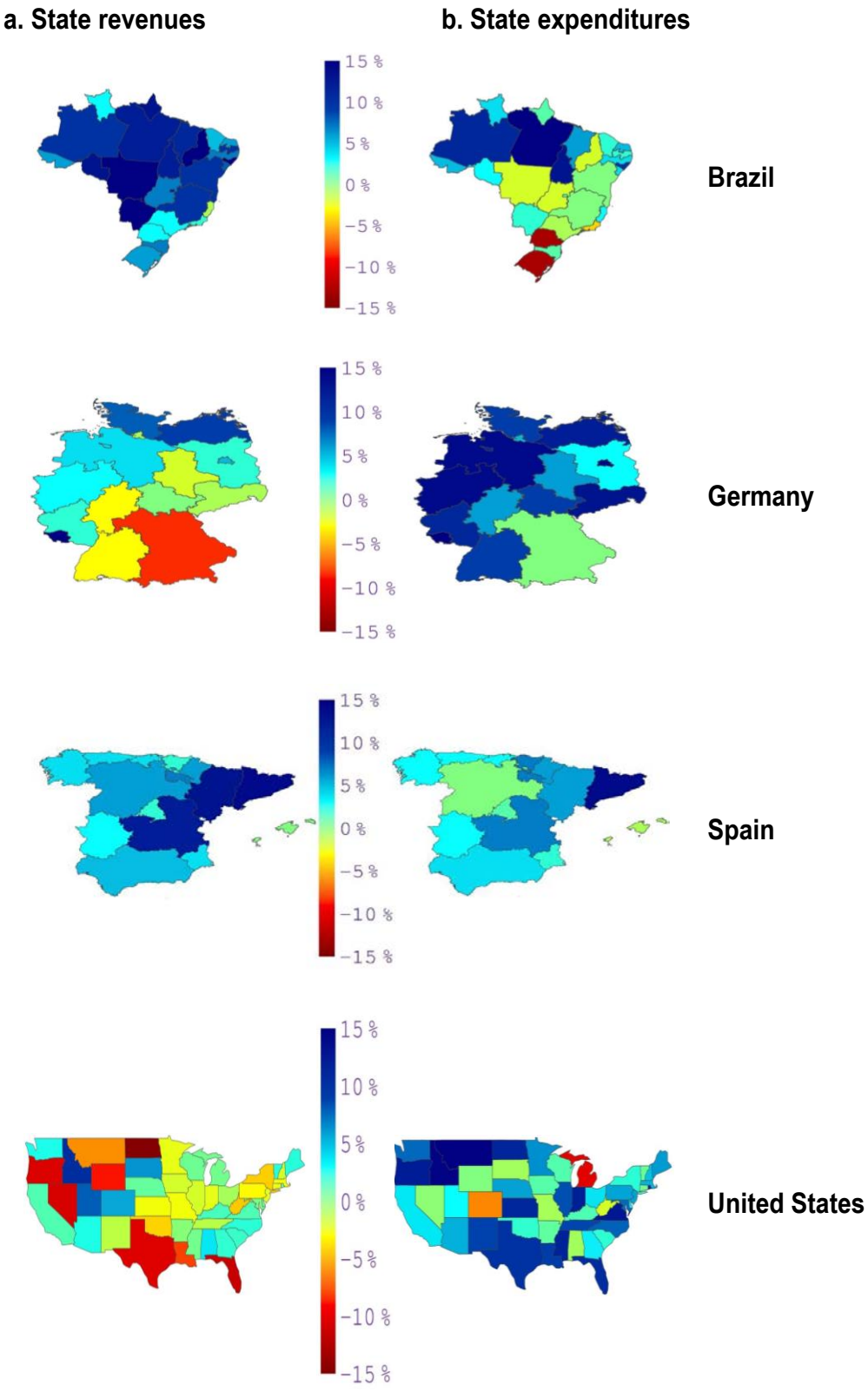
As a result of the fact that: 1) SNGs have received financial support from the central government at the emergency phase (refer to Figure 9.7 and Figure 9.10 Panel C); 2) SNGs' tax mix is less sensitive to economic downswings; 3) most tax measures aimed at providing liquidity to business and households are managed at the central level; and 4) central governments tend to be in charge of the majority of the social protection spending (refer to Figure 9.2), the central government has absorbed most of the fiscal shock of 2020.

Revenues and expenditure growth varied widely and in an uncorrelated manner across regions, creating completely different situations within countries

This analysis of the aggregate data by level of government masks the fact that jurisdictions have suffered disparate impacts from the crisis and, therefore, although on an aggregate level SNGs seem to have been hit less by the crisis, individual jurisdictions might have suffered substantially. In other words, the burden of the crisis in terms of decrease of revenues and increase in expenditure is not symmetrically distributed across regions and jurisdictions within countries.

Preliminary data of the financial situation of states in four countries shows a substantial asymmetry within countries both in terms of revenues and expenditures (Figure 9.14). For instance, the range of revenue growth was, roughly, 2% to 24%, -8% to 15%, 0 to 14% and -15% to 10% while the range of expenditure growth was -13% to 18%, 0% to 20%, -1% to 14% and -2% to 18% in Brazil, Germany, Spain and the contiguous United States,[42] respectively. It is worth noting that the correlation between the growth in expenditure and revenues was significant in Germany (0.77) and Spain (0.73), while it was insignificant in Brazil (0.22) and the contiguous United States (-0.16).

Figure 9.14. Disparities in growth of revenues and expenditures within countries



Note: For Brazil, Germany and Spain, growth rate refers to the full year of 2020 in comparison to 2019. For the United States, growth rate refers to the last three trimesters of 2020 in comparison to the same period in 2019.
Source: National data for Brazil; Germany; Spain; Urban Institute and NASBO for the United States.

This pattern of substantial asymmetries in revenues and expenditure growth and lack of correlation between them can lead to enormous disparities in the fiscal situation of individual jurisdictions, creating solvency and/or liquidity risks for some while leaving others undamaged or even in a better fiscal situation after the crisis. It is worth highlighting that an extraordinary asymmetry of such dimension will very likely *not* be offset by fiscal equalisation transfers, which aim at reducing *structural* disparities across regions (OECD, 2020[5]).[43]

Disparities across regions are caused by the asymmetric nature of the COVID-19 crisis, which is hitting regions and sectors with a wide variation

These substantial disparities across regions cannot be explained solely by the differences in the composition of revenues and expenditures across jurisdictions, which tend to be smaller across regions than across levels of government, even in countries in which SNGs have substantial autonomy.[44] It is likely, therefore, that, these disparities were caused by asymmetric nature of the COVID-19, which has hit regions (OECD, 2021[31]) and sectors in different orders of magnitude. Especially regarding the latter, there tends to be substantial differences in the sector-dependency of each region,[45] especially considering that in a globalised world local development tends to benefit from having specialised clusters.

Recovery and post-pandemic phase

Similar to other crises, the COVID-19 crisis might generate structural changes to the economy, which bring about the need for policy makers to implement reforms to intergovernmental fiscal arrangements. More notably, the COVID-19 caused an acceleration of the digitalisation of the economy and had asymmetric impacts across sectors, which might: 1) change the distribution of income across and within levels of government as economic sectors are unevenly distributed across regions; 2) lead to income concentration as the drop in employment has been sharper for low-skilled jobs and lower paid workers are less likely to be able to work from home (OECD, 2020[40]); and 3) aggravate structural inequalities regarding access to education (OECD, 2020[41]), healthcare and social protection, potentially increasing spending needs. Intergovernmental relations arrangements might require reforms so they can deal with these new challenges.

Equalisation systems can be fine-tuned to the post-crisis reality in a manner that disparities in revenue capacity and expenditure costs are re-calibrated, so as to minimise regional asymmetries and increase the pace of regional convergence. It is worth noting that regional inequalities can also be minimised with policies that are unrelated to fiscal relations, such as with cash transfer programmes, which were widely employed during the COVID-19 era and might become more relevant, as they are the most effective tool to deal with income inequality (Joumard, Pisu and Bloch, 2012[42]). As these programmes are targeted at vulnerable groups, since the distribution of these groups is uneven across regions, it is likely that the poorest regions will benefit more from them, which would not only impact regional convergence but also equalise SNGs revenues indirectly.[46] Effective regional development policies can have similar effects.

Regarding increasing spending needs, countries have a window of opportunity to implement reforms to deliver inclusive, resilient and sustainable economic growth after the pandemic. Fiscal frameworks can be made more sustainable through reviews of public spending to ensure priorities match citizens' ambitions and needs, and through reassessments of taxation to ensure a fair, efficient and progressive tax system (OECD, 2021[43]). These reforms affect the distribution of income across levels of government and, therefore, it is crucial for central governments to co-ordinate with SNGs in a manner that the revenues are distributed across levels of government according to their expenditure mandates.

Similar to what happened after the Global Financial Crisis, the COVID-19 crisis may intensify the need for some countries to change their fiscal rules. More specifically, the rules may become mis-calibrated due to the post-crisis fiscal stance of SNGs, and/or they may become ineffective to deal with an abrupt increase

in regional inequality. In light of the latter, there have been debates about the replacement of standardised rules with fiscal standards. More specifically, fiscal standards leave room for judgement together with a process to decide whether the standards are met, which require a larger surveillance role for independent fiscal councils as well as a judicial body for adjudication over disputes (Blanchard, Leandro and Zettelmeyer, 2021[44]). Consequently, these councils can lead to a more flexible application of fiscal rules by considering in its assessment: 1) specific characteristics of each jurisdiction; and 2) the situation of the economy in order to avoid counter-cyclical policies. Nevertheless, it is worth noting that this structural change is not without risks: 1) accommodative independent fiscal councils can make fiscal rules inoperative; and 2) frequent changes in the fiscal rule framework might signal an accommodative stance to the market, reducing its positive impact on the credibility of the fiscal policy. As a result, such changes need to be well-designed and well-communicated.

To conclude, such a crisis creates a window of opportunity to implement reforms that had been already envisioned. There might be opportunities to improve the framework used to handle public health crises and to improve intergovernmental co-ordination permanently as a result of the lessons learnt during the crisis. With regard to the former, some countries had problems with their state-of-emergency laws and/or emergency frameworks, as they were not used often, the distribution of power across levels of government was, in some cases, unclear or suboptimal. Amendments can, hence, be used to improve these pieces of legislation and protocols made to improve (de)centralisation of activities. In addition, co-ordination arrangements were widely employed across OECD countries with great success. These arrangements can be kept and extended to achieve other policy goals. Countries should seize the opportunity and use the COVID-19 crisis to make structural changes to improve policy delivery. A crisis should never be wasted.

References

Altherr, H. (2020), "Federalism and the COVID-19 Crisis: A Perspective from Switzerland", *Forum of Federations*. [14]

Asplund, E. et al. (2021), "Elections and Covid-19: Health and safety in polling stations", *IDEA: International Institute for Democracy and Electoral Assistance*, https://www.idea.int/news-media/news/elections-and-covid-19-health-and-safety-polling-stations (accessed on 29 May 2021). [34]

Bennouna, C. et al. (2020), *Policy Coordinatiom in Presidential Federations During the Pandemic: Explaining Subnational Responses to COVID-19 in Brazil, Mexico and the United States*. [46]

Benton, J. (2020), *Challenges to Federalism and Intergovernmental Relations and Takeaways Amid the COVID-19 Experience*, https://doi.org/10.1177/0275074020941698. [50]

Blanchard, O., Á. Leandro and J. Zettelmeyer (2021), "Ditch the EU's fiscal rules; develop fiscal standards instead", *VoxEU*, https://voxeu.org/article/ditch-eu-s-fiscal-rules-develop-fiscal-standards-instead. [44]

Buthe, T. et al. (2020), "Patterns of Policy Responses to the COVID-19 Pandemic in Federal vs. Unitary European Democracies", *SSRN Electronic Journal*, http://dx.doi.org/10.2139/ssrn.3692035. [12]

Carlsson-Szlezak, P., P. Swartz and M. Reeves (2020), "Why The Global Economy Is Recovering Faster Than Expected", *Harvard Business Review*, https://hbr.org/2020/11/why-the-global-economy-is-recovering-faster-than-expected (accessed on 2021 May 25). [27]

Choutagunta, A., G. Manish and S. Rajagopalan (2021), "Battling COVID-19 with dysfunctional federalism: Lessons from India", *Southern Economic Journal*, Vol. 87. [51]

Cockerham, A. and R. Crew Jr. (2020), *The Covid-19 pandemic shows the power and limits of American federalism. | USAPP*, https://blogs.lse.ac.uk/usappblog/2020/04/03/the-covid-19-pandemic-shows-the-power-and-limits-of-american-federalism/. [10]

Council of Europe (2020), *Local and regional elections in major crisis situations*, https://rm.coe.int/local-and-regional-elections-in-major-crisis-situations-monitoring-com/16809fa82f. [32]

Dave, D. et al. (2020), "JUE Insight: Were urban cowboys enough to control COVID-19? Local shelter-in-place orders and coronavirus case growth", *Journal of Urban Economics*, p. 103294, http://dx.doi.org/10.1016/j.jue.2020.103294. [57]

de Biase, P. and S. Dougherty (2021), "Federalism and public health decentralisation in the time of COVID-19", *OECD Working Papers on Fiscal Federalism*, No. 33, OECD Publishing, Paris, https://dx.doi.org/10.1787/b78ec8bb-en. [13]

de Mello, L. and T. Ter-Minassian (2020), "Digitalisation challenges and opportunities for subnational governments", *OECD Working Papers on Fiscal Federalism*, No. 31, OECD Publishing, Paris, https://dx.doi.org/10.1787/9582594a-en. [35]

Desson, Z. et al. (2020), *Europe's Covid-19 outliers: German, Austrian and Swiss policy responses during the early stages of the 2020 pandemic*, Elsevier Ltd, https://doi.org/10.1016/j.hlpt.2020.09.003. [49]

Dougherty, S. and P. de Biase (2021), "Who absorbs the shock? An analysis of the fiscal impact of the COVID-19 crisis on different levels of government", *International Economics and Economic Policy*, Vol. 18/3, http://dx.doi.org/10.1007/s10368-021-00518-1. [38]

Dougherty, S., M. Harding and A. Reschovsky (2019), "Twenty years of tax autonomy across levels of government: Measurement and applications", *OECD Working Papers on Fiscal Federalism*, No. 29, OECD Publishing, Paris, https://dx.doi.org/10.1787/ca7ebc02-en. [4]

Dougherty, S. and L. Phillips (2019), "The spending power of sub-national decision makers across five policy sectors", *OECD Working Papers on Fiscal Federalism*, No. 25, OECD Publishing, Paris, https://dx.doi.org/10.1787/8955021f-en. [58]

Downey, D. and W. Myers (2020), *Federalism, Intergovernmental Relationships, and Emergency Response: A Comparison of Australia and the United States*, https://doi.org/10.1177/0275074020941696. [23]

Edwards, C. (2021), "'Yes, it's really that bad': Several Swedish regions reach maximum intensive care capacity", *The Local*, https://www.thelocal.se/20210421/yes-its-really-that-bad-several-swedish-regions-have-reached-maximum-intensive-care-capacity/ (accessed on 2021 May 30). [15]

Égert, B. et al. (2020), "Walking the tightrope: avoiding a lockdown while containing the virus", *OECD Economics Department Working Papers*, No. 1633, OECD Publishing, Paris, https://dx.doi.org/10.1787/9cc22d8c-en. [9]

Enders, W. (2018), *Applied Econometric Time Series*, Wiley. [55]

Falcão, M. and F. Vivas (2020), *Globo*, https://g1.globo.com/politica/noticia/2020/04/15/maioria-do-supremo-vota-a-favor-de-que-estados-e-municipios-editem-normas-sobre-isolamento.ghtml. [52]

Forman, K., S. Dougherty and H. Blöchliger (2020), "Synthesising good practices in fiscal federalism: Key recommendations from 15 years of country surveys", *OECD Economic Policy Papers*, No. 28, OECD Publishing, Paris, https://dx.doi.org/10.1787/89cd0319-en. [3]

Geiser, U. (2021), "Critics force vote to rein in government's Covid policy", *Swiss Info*, https://www.swissinfo.ch/eng/critics-force-vote-to-rein-in-the-government-s-covid-policy/46471484. [16]

Góes, C., I. Karpowicz and A. Cuevas (2017), "Inequality in Brazil: A Regional Perspective", *International Monetary Fund*, https://www.elibrary.imf.org/view/journals/001/2017/225/article-A001-en.xml. [56]

Hegele, Y. and J. Schnabel (2021), *Federalism and the management of the COVID-19 crisis: centralisation, decentralisation and (non-)coordination*, Routledge, https://doi.org/10.1080/01402382.2021.1873529. [18]

Hofverberg, E. (2021), "Sweden: New COVID-19 Act Enters into Force", *Library of Congress: Law*, https://www.loc.gov/law/foreign-news/article/sweden-new-covid-19-act-enters-into-force/ (accessed on 2021 May 30). [17]

Huber, M. and H. Langen (2020), "Timing matters: the impact of response measures on COVID-19-related hospitalization and death rates in Germany and Switzerland", *Swiss Journal of Economics and Statistics*, http://dx.doi.org/10.1186/s41937-020-00054-w. [45]

Jenkins, G., C. Kuo and S. Gangadhar (2000), "Tax analysis and revenue forecasting", *Harvard Institute for International Development Harvard University*, Vol. June. [61]

Joumard, I., M. Pisu and D. Bloch (2012), "Less Income Inequality and More Growth – Are They Compatible? Part 3. Income Redistribution via Taxes and Transfers Across OECD Countries", *OECD Economics Department Working Papers*, No. 926, OECD Publishing, Paris, https://dx.doi.org/10.1787/5k9h296b1zjf-en. [42]

Kantis, C., S. Kiernan and J. Bardi (2021), "Updated: Timeline of the Coronavirus", *Think Global Health*, https://www.thinkglobalhealth.org/article/updated-timeline-coronavirus. [7]

Kettl, D. (2020), "States Divided: The Implications of American Federalism for COVID-19", *Public Administration Review*, Vol. 80/4, pp. 595-602, http://dx.doi.org/10.1111/puar.13243. [59]

Lagravinese, R., P. Liberati and A. Sacchi (2020), "Tax buoyancy in OECD countries: New empirical evidence", *Journal of Macroeconomics*, Vol. 63, p. 103189, http://dx.doi.org/10.1016/j.jmacro.2020.103189. [60]

Lecours, A. et al. (2020), "The COVID-19 crisis and Canadian Federalism", *Forum of Federations Occasional Paper Series*, Vol. 48. [62]

Lehner, J. (2020), "Oregon Office of Economic Analysis", *COVID-19: The Square Root Recovery*, https://oregoneconomicanalysis.com/2020/04/07/covid-19-the-square-root-recovery/ (accessed on 25 May 2021). [26]

Mahon, J., J. Oke and C. Heneghan (2020), "The Centre for Evidence-Based Medicine, University of Oxford", *Declining death rate from COVID-19 in hospitals in England*, https://doi.org/10.1136/bmj.m2530 (accessed on 25 May 2021). [53]

Maizland, L. (2020), "How Countries Are Holding Elections During the COVID-19 Pandemic", *Council on Foreign Relations*, https://www.cfr.org/backgrounder/how-countries-are-holding-elections-during-covid-19-pandemic (accessed on 2021 May 29). [33]

Maragakis, L. (2020), "Coronavirus Second Wave? Why Cases Increase", *John Hopkins Medicine*. [6]

Milbradt, G. (2020), *Federalism and the COVID-19 Crisis: A Perspective from Germany*. [48]

Oates, W. (1972), *Fiscal Federalism*, Edward Elgar Publishing. [2]

OECD (2021), *"The territorial impact of COVID-19: Managing the crisis and recovery across levels of government", OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, https://doi.org/10.1787/a2c6abaf-en. [31]

OECD (2021), "Access to COVID-19 vaccines: Global approaches in a global crisis", *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, https://doi.org/10.1787/c6a18370-en. [30]

OECD (2021), *OECD Economic Outlook, Volume 2021 Issue 1*, OECD Publishing, Paris, https://dx.doi.org/10.1787/edfbca02-en. [43]

OECD (2021), *Tax Policy Reforms 2021: Special Edition on Tax Policy during the COVID-19 Pandemic*, OECD Publishing, Paris, https://doi.org/10.1787/427d2616-en. [39]

OECD (2020), "Beyond containment: Health systems responses to COVID-19 in the OECD", *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, https://doi.org/10.1787/6ab740c0-en. [8]

OECD (2020), *Beyond Containment: Health systems responses to Covid-19 in the OECD*, http://www.oecd.org/coronavirus/policy-responses/beyond-containment-health-systems-responses-to-covid-19-in-the-oecd-6ab740c0/. [20]

OECD (2020), "Building resilience to the Covid-19 pandemic: The role of centres of government", *OECD Policy Responses to Coronavirus (COVID-19)*, https://doi.org/10.1787/883d2961-en. [21]

OECD (2020), "COVID-19 and fiscal relations across levels of government", *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, https://doi.org/10.1787/ab438b9f-en. [5]

OECD (2020), "COVID-19: Protecting people and societies", *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, https://doi.org/10.1787/e5c9de1a-en. [40]

OECD (2020), *OECD Reviews of Public Health: Korea: A Healthier Tomorrow*, OECD Reviews of Public Health, OECD Publishing, Paris, https://dx.doi.org/10.1787/be2b7063-en. [24]

OECD (2020), *Public Procurement and Infrastructure Governance: Initial policy responses to the Coronavirus (COVID-19) crisis*, http://www.wcoomd.org/-. [19]

OECD (2020), "The impact of COVID-19 on student equity and inclusion: Supporting vulnerable students during school closures and school re-openings", *OECD Tackling Coronavirus*, https://www.oecd.org/coronavirus/policy-responses/the-impact-of-covid-19-on-student-equity-and-inclusion-supporting-vulnerable-students-during-school-closures-and-school-re-openings-d593b5c8/. [41]

OECD-CoR (2020), "The impact of the COVID-19 crisis on regional and local governments: Main findings from the joint CoR-OECD survey", http://www.oecd.org/regional/multi-level-governance.htm. [22]

OSCE (2020), "International Election Observation Mission", *Statement of Preliminary Findings and Conclusions*, https://www.osce.org/files/f/documents/9/6/469437.pdf (accessed on 29 May 2021). [37]

Reuters (2021), "Italy's Campania region signs deal to buy Russia's Sputnik V vaccine", *Race for a Cure*, https://www.reuters.com/article/us-health-coronavirus-italy-sputnik-idUSKBN2BI2I6 (accessed on 27 May 2021). [54]

Rozell, M. and C. Wilcox (2020), *Federalism in a Time of Plague: How Federal Systems Cope With Pandemic*, https://doi.org/10.1177/0275074020941695. [47]

Steytler, N. (2020), *Federalism and the COVID-19 Crisis: A Perspective from South Africa*. [11]

Sullivan, K. (2020), *Impact of COVID-19 on the 2020 US presidential election (International Institute for Democracy and Electoral Assistance)*. [36]

Vammalle, C. et al. (2020), "Fiscal Rules for Subnational Governments: The Devil's in the Details", *16th Annual Meeting of the Network on Fiscal Relations across Levels of Government*. [25]

von Hayek, F. (1960), *The Constitution of Liberty*, The University of Chicago Press. [1]

WHO (2021), *Coronavirus disease (COVID-19): Vaccines*, https://www.who.int/news-room/q-a-detail/coronavirus-disease-(covid-19)-vaccines (accessed on 25 May 2021). [28]

WHO (2020), *Coronavirus disease (COVID-19): Herd immunity, lockdowns and COVID-19*, https://www.who.int/news-room/q-a-detail/herd-immunity-lockdowns-and-covid-19 (accessed on 2021 May 25). [29]

Notes

[1] The intergovernmental transfer system involves statutory rules related to tax sharing (i.e. endowment to SNGs of a portion of revenues collected at an upper level of government), equalisation transfers (i.e. transfer of financial resources to and between SNGs with the aim of mitigating regional differences in fiscal capacity and expenditure needs) and a multitude of other types of grants (e.g. earmarked/non-earmarked, compulsory/discretionary, matching/non-matching, etc.), all of which having specific dynamics that greatly affect the order of magnitude of the funds transferred to SNGs and how they are distributed across jurisdictions.

[2] Other government functions were also affected, such as education, transport and economic affairs.

[3] For instance, in Germany and Switzerland (Huber and Langen, 2020[45]) and in some American states, such as Texas, in which counties that had enforced lockdowns before having a state-wide lockdown enforcement order experienced less cases (Dave et al., 2020[57]).

[4] The OECD's Network on Fiscal Relations held a survey to member countries concerning the main challenges and measures deployed to tackle the COVID-19 outbreak through the channel of intergovernmental relations. Twenty tree OECD and partner countries answered the questionnaire.

[5] For instance, despite Germany having approached the first wave of the pandemic in a rather decentralised manner while Switzerland and Austria have implemented centralised responses, all three countries were largely successful in contain the virus within their borders during the emergency phase of the crisis (Desson et al., 2020[49]).

[6] In the context of the COVID-19 pandemic, containment measures go far beyond the usual scope of healthcare. Lockdown enforcement, closure of schools, prohibition of large gatherings, closure of regional and international borders are just some examples of measures that are not directly related to healthcare but have been employed to slow the spread and prevent health systems becoming over-burdened. Many of these policies have a substantial impact on regional economies and they can have an enormous cost. Therefore, it is expected that dwellers' preferences will vary across regions with regard to the stringency of these policies.

[7] Due to historical and political factors the Canadian “national emergency” state is considered a central intrusion into provincial jurisdictions and, therefore, the parliament decided not to declare an emergency state (Lecours et al., 2020[62]).

[8] In Germany, at the start of the COVID-19 pandemic, the parliament declared a nationwide epidemic emergency, allowing the Federal Health Ministry to regulate by legislative decree a wide range of issues (Milbradt, 2020[48]). Nevertheless, despite the centralisation of powers, the federal government allowed states to vary substantially with regards to the substance and timing of the measures.

[9] Switzerland in mid-March, 2020, proclaimed that the country was in an “extraordinary situation” which has raised some questions that were not clearly defined by the law such as the extent to which federal decrees apply equally to all cantons and the further measures that cantons were entitled to take in an independent manner (Altherr, 2020[14]). Despite this lack of clarity, the Swiss federal government consulted cantons prior to taking measures, which minimised political problems. In the end measures were applied uniformly across the whole country, which has led to a mostly consistent response from a highly decentralised country.

[10] More specifically, a state-of-emergency that centralises decision making is more likely to be effective in case the information necessary for making decisions is also centralised. Therefore, in case a country operates in a highly decentralised manner, it can be difficult to achieve this centralisation of information in the short-term, hindering its effectiveness. In addition, a drastic change in the way in which organisations work can be tough to implement at the rapid pace that is necessary to tackle an emergency.

[11] An example of a country in which COVID-19 related responsibilities were, to some extent, defined as a result of judicial disputes between levels of government is Brazil (Falcão and Vivas, 2020[52]).

[12] India’s constitution gave the central government residual power over activities whose assignment was not clearly defined. As a consequence of these assignments, despite having substantial asymmetry in healthcare capacity and in the impact of the outbreak in the country, India tackled the first wave of the crisis with a centralised approach in which lockdowns were enforced throughout the country, following central orders (Choutagunta, Manish and Rajagopalan, 2021[51]).

[13] Among other dimensions, intergovernmental co-ordination can be distinguished between vertical (i.e. between different levels of government) and horizontal (i.e. within the same level of government); formal (i.e. legally or through a joint declaration) or informal; and binding and non-binding (Hegele and Schnabel, 2021[18]).

[14] For instance, a study from the OECD Network on Fiscal Relations has found that healthcare is often managed by multiple levels of government, with substantial overlap, with policy design and output monitoring largely in the hands of the central government while budget and input autonomy are managed at the subnational level (Dougherty and Phillips, 2019[58]).

[15] In a survey of policy responses to the first wave of the pandemic, countries reported to have either allocated health inputs and patients across jurisdictions according to demonstrated need or hospital beds (e.g. Austria, Australia, Belgium, Colombia, Estonia, Finland, Italy, Japan, Korea, Luxembourg, Mexico, Poland, Slovakia, Spain, South Africa, Switzerland, and the United States). In more than 80% of cases, these reallocations of resources were made in a co-ordinated manner involving the central government and SNGs.

[16] For instance, despite the relative absence of central mandates, German states employed rather similar policies, varying mostly the timing of the implementation (Desson et al., 2020[49]). Australia was another relatively decentralised country that was able to deliver a very efficient and relatively homogenous policy response to the crisis (Rozell and Wilcox, 2020[47]; Downey and Myers, 2020[23]).

[17] Poland established the "COVID-19 Counteraction Fund" that, although is not a mechanism of multi-level governance, has facilitated co-ordination across levels of government.

[18] For instance, Italy created a scientific-technical committee that has a supporting role in monitoring the state of the epidemic and providing guidelines on lockdowns and travel restrictions decisions (OECD, 2020[5]).

[19] Some examples of institutional arrangements employed to better co-ordinate procurement activities are: 1) a temporary centralisation of the purchases; 2) joint procurement arrangements involving jurisdictions at the same level of government; and 3) sharing information about prices and suppliers (OECD, 2020[19]). Increased centralisation of purchasing medical and health products has been adopted in Canada, Colombia, Latvia, Germany, Korea, Estonia, Italy, Lithuania, Poland, Spain, Switzerland and Slovakia, among others; decentralised but co-ordinated procurement systems was successfully employed in Italy to tackle the first wave of the crisis (OECD, 2020[19]).

[20] Data has been used to improve the effectiveness of test-and-trace policies, which has been considered among the most effectives strategies to reduce contagion while minimising restrictive measures that have significant economic costs (Égert et al., 2020[9]). Countries with standardised national electronic health records that produce high quality data can more easily extract value from their data in times of crisis (e.g. Canada, Denmark, Estonia, Finland, Israel, Singapore, Slovakia and the United Kingdom) (OECD, 2020[20]). Some countries with decentralised data management have successfully consolidated a national database in a matter of months by defining standards that SNGs must follow in collecting and sharing the data with the central authority (e.g. Austria, Germany and Switzerland) (Desson et al., 2020[49]).

[21] An example of a country that successfully responded to the first wave of the crisis using this approach was Australia (de Biase and Dougherty, 2021[13]).

[22] Co-operation across municipalities was observed in Chile, Denmark, France, Israel, Latvia and Sweden while across regions in Belgium, Switzerland and the United States (OECD-CoR, 2020[22]). Notably in the United States, a myriad of inter-state co-operative arrangements was made to tackle the first wave of the crisis by co-ordinating action related to the closure of schools, nonessential business, parks, among others. There are examples from the northeastern states (i.e. New York, New Jersey, Connecticut, Pennsylvania, Rhode Island, Delaware, and Massachusetts), West Coast (i.e. California, Colorado, Nevada, Oregon, and Washington) and Midwestern (i.e. Illinois, Indiana, Kentucky, Michigan, Minnesota, Ohio, and Wisconsin) (Benton, 2020[50]).

[23] There has been evidence of diffusion of COVID-19 responses to neighbouring jurisdictions in Brazil, Mexico and the United States and to jurisdictions governed by aligned political parties in Mexico and the United States (Bennouna et al., 2020[46]). In some cases, the political party was a better predictor of the policies implemented than the local severity of the outbreak (Kettl, 2020[59]).

[24] For instance, this probably has happened in India (Choutagunta, Manish and Rajagopalan, 2021[51]).

[25] Results from a survey held by the OECD Network on Fiscal Relations in June 2020.

[26] This topic is covered in more detail in another section. Here it is worth noting that not all deferral of taxes that are shared with SNGs are going to impact SNGs finances. For instance, in case the deferred tax is transferred to SNGs only after the deferral end date, SNGs might not face any reduction in revenue. In addition, governments that have extended temporarily unemployment schemes to a wide group of workers might have supported the consumption of these workers, so SNGs that depend more on value added taxes might have been protected somewhat by the action of the central government.

[27] A survey held by the OECD Network on Fiscal Relations found that restrictions on SNG borrowing are very frequent and vary significantly across countries (Vammalle et al., 2020[25]). Restrictions may apply only to borrowing for current expenditure, capital expenditure or both and to borrowing to specific purposes. About two-thirds of surveyed countries have some type of restriction on the level or growth rate of debt or debt service. In some countries subnational borrowing requires an approval from the central government or from other SNGs. Borrowing abroad or in foreign currency is frequently forbidden for SNGs.

[28] Institutional arrangements whose purpose is to mitigate subnational fiscal risks through the imposition of constraints on fiscal policy, usually operationalised by limits on certain aggregates.

[29] In particular in the EU countries, this was allowed by the “general escape clause” by the European Commission. At the European level, the European Commission proposed on 27 March 2020 to activate the general escape clause of the Stability and Growth Pact as part of its strategy to respond quickly, forcefully and in a co-ordinated manner to the COVID-19 pandemic.

[30] One example of an exception is Brazil, in which SNGs benefiting from central government exceptional transfers suffer limitations to increase personnel spending until the end of 2021.

[31] For instance, in principle in cases in which SNGs are in charge of enforcing lockdowns, they might choose the level of enforcement to maximise their own benefits. Heavily enforced lockdowns might damage the local economy more but might reduce the health costs and, thus, could be ideal for SNGs that are fully financially compensated by the central government and that bear health costs. The opposite is also true: SNGs that do not bear health costs and that are not compensated by central governments could simply enforce weak lockdowns in a manner to transfer the health costs to the central government.

[32] Studies have suggested that this can be explained by numerous reasons: 1) availability of care homes and hospital beds which enables patients to be treated even at early stages of the virus; 2) improved infection control in hospitals, which tends to affect more vulnerable patients; 3) clinicians have become more skilled and adept at treating patients with COVID-19; and 4) a younger age-profile of patients (Mahon, Oke and Heneghan, 2020[53]).

[33] This proportion varies by diseases (e.g. 95% for measles, 80% for polio) and it is not known this proportion for COVID-19, and it will likely vary according to the community, the vaccine, the populations prioritised for vaccination, and other factors (WHO, 2020[29]).

[34] In the European Union there was a tendency for member states to take a centralised EU approach to securing supplies and providing support for the development of vaccines under the EU vaccines strategy.

[35] In Australia, Chile, Germany, Finland, Japan, Korea, Mexico, Spain and Sweden, the central government is generally responsible for vaccine procurement while SNGs have a substantial role in administration the vaccines, which usually includes preparing the sites, organising the staff, storage/logistics of the equipment and rolling-out vaccines. One interesting exception is Italy, in which there also are state governments negotiating directly with suppliers of vaccines (Reuters, 2021[54]).

[36] For instance, in Canada, Finland, the United States and the United Kingdom, states/devolved nations have some autonomy to decide how they allocate doses across populations.

[37] The OECD Fiscal Decentralisation database is available at http://oe.cd/FDdb.

[38] Forecasters consider that the response of tax revenues to economic activity is dynamic and can be better captured with Error Correction Models that estimate short-run, long-run and speed of adjustment (from short-run elasticities/buoyancies towards long-run ones) coefficients (Enders, 2018[55]). In the context of short and abrupt crises, short-run relationships tend to be more meaningful than long-run ones.

[39] Since tax elasticity captures the effect of the cycle controlling for exogenous tax policies, it is considered a better indicator to measure the reaction of tax revenue to changes in the macroeconomic conditions (Jenkins, Kuo and Gangadhar, 2000[61]). There are also compelling arguments in favour of using tax buoyancy, being the most prominent ones the fact that discretionary tax changes are part of fiscal policy and, thus, should be captured by the coefficient, and that it is practically impossible to isolate tax revenues from changes in the tax framework, which hinders the estimation of "pure" tax elasticities (Lagravinese, Liberati and Sacchi, 2020[60]).

[40] Although it is soon to properly assess the impact of this crisis on tax bases, it can be the case that in this crisis the sensitivity of tax revenues shifted as a result of the huge asymmetric impacts on different sectors of the economy.

[41] Examples of countries that 1) deferred or waived the payment of business property taxes are Bulgaria, Chile, Israel, Italy, Japan, Peru, Singapore and the United Kingdom; 2) benefited residential property owners are Chile, Greece and Macau; and 3) Reduced property transaction taxes are Czech Republic, Israel, Korea, the Netherlands and the United Kingdom (OECD, 2021[39]).

[42] For the United States the growth rate refers to the last three trimesters of 2020 in comparison to the same period in 2019 while for other countries it refers to the full year of 2020 in comparison to 2019.

[43] In some cases, asymmetries introduced by the pandemic will not be reflected by equalisation payments for several years due to the use of lagged variables in the underlying formulae. Moreover, funds for equalising transfers are often tied to dedicated revenues streams or capped at a certain growth rate, potentially below the growth rate observed in certain jurisdictions, which may cause equalisation funds to shrink as a result of the pandemic.

[44] The more autonomous SNGs are, the larger these differences tend to be. This results from differences in tax limitations. For instance, in the United States, states can vary substantially their income taxes rates, with some states having no income taxes while others relying substantially on this type of tax. In countries in which SNGs cannot vary their tax policy significantly, it is expected that SNGs tax mix will also be more similar. The same holds true for expenditure assignments, in which SNGs might face limitations on their autonomy as a result of earmarked transfers and/or mandated expenditure floors.

[45] Regions most dependent on tourism and trade suffered more from the economic slowdown as a result of the pandemic (OECD, 2021[31]).

[46] For instance, in Brazil, the income distribution programme "Bolsa Familia" has contributed to the decline of regional inequality in the country (Góes, Karpowicz and Cuevas, 2017[56]).

Fiscal Federalism 2022

MAKING DECENTRALISATION WORK

Fiscal Federalism 2022 surveys recent trends and policies in intergovernmental fiscal relations and subnational government. Accessible and easy-to-read chapters provide insight into: good practices in fiscal federalism; the design of fiscal equalisation systems; measuring subnational tax and spending autonomy; promoting public sector performance across levels of government; digitalisation challenges and opportunities; the role of subnational accounting and insolvency frameworks; funding and financing of local government public investment; and early lessons from the COVID-19 crisis for intergovernmental fiscal relations.

PRINT ISBN 978-92-64-46496-4
PDF ISBN 978-92-64-91295-3